

# iPad & iPhone **user**

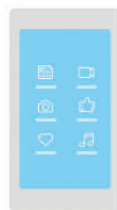
## Complete guide to iOS Settings



NEW: Apple iPod touch



Build  
your  
own  
App



Grid



Little Swipe

# Welcome...

As you may have guessed, we're huge fans of everything iPad and iPhone. One of the things we love the most is the number of customisation options Apple offers. The default settings are fine, but there's nothing like the personal touch. Hate the wallpaper or find the screen too bright? Want to create your own personal hotspot or share files and photos to iCloud? All of these and more are covered in our complete guide to iOS settings. With the tips in this feature, you'll have your iOS device looking and running exactly the way you want in next to no time.

It was back in 2012 when Apple last updated its iPod range, so its announcement that it was revamping its line-up came as a surprise. Each model is available in bright new colours, while the iPod touch has been given a boost on the inside. We'll be taking a look at Apple's new players, as well as why Apple Music could launch their comeback.

If you've ever wanted to make your own app, we look at three DIY services that are all especially user-friendly and designed for people who have never built so much as a website, let alone an app.

While 4GB of data probably sounded like a lot when you signed your contract, with data-hungry apps you'll be amazed at how soon you go through your allowance. We'll help you curb your usage.



# Guide to iOS settings

Customise your iOS device with our guide to its settings

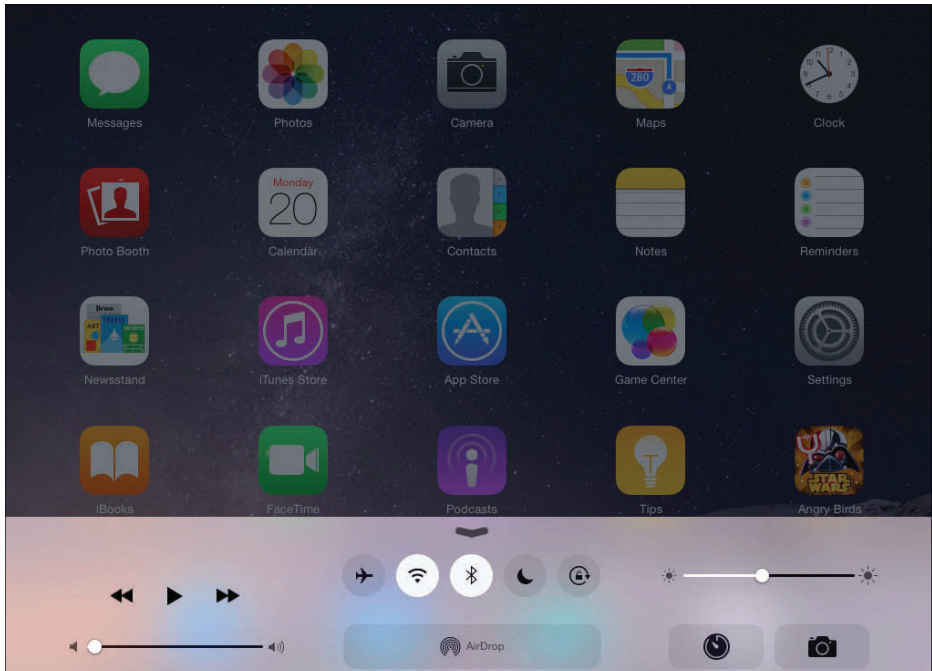
**L**ike System Preferences on a Mac, Settings on your iOS device offers access to tools for adjusting screen brightness, setting up a password, configuring your Wi-Fi, and more. But in addition, you will also find options for handling phone calls and mobile broadband, as well as many other security features that protect your personal files, photos and other information. So here's our guide to the main settings that you need to know about in iOS 8.

## How to change settings

If you are new to the iPhone (or iPad), you may not know that it is possible to make various adjustments to the settings of your device. To do so, tap on the Settings icon on your Home Screen, the one that looks like a cog.

## Access Control Centre

You can activate Control Centre by placing your finger on the solid border below the bottom edge of the screen, and then swiping your finger upwards on to the screen. That gesture pulls up the Control Centre panel up and gives you instant access to a number of important settings. These easy-access

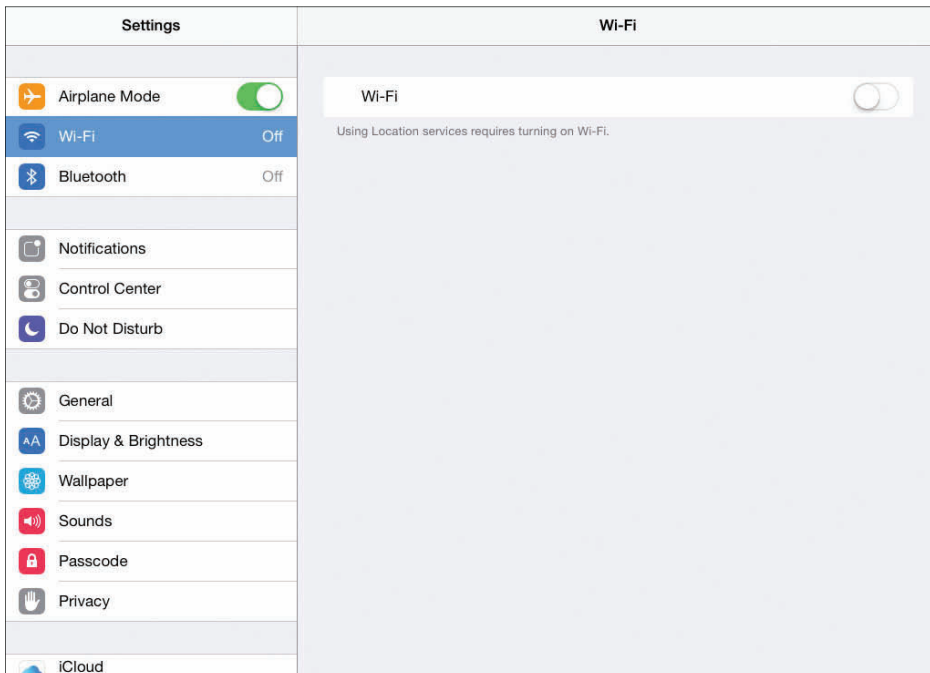


settings include screen brightness and volume, On/Off controls for Wi-Fi and Bluetooth, and the ability to activate the camera.

The Control Centre is available at all times – even on the Lock screen – so you can get at the main controls for your device whenever you need to.

## Airplane Mode

Control Centre shows only a few of the options available within the main Settings app, so let's tap on Settings now to take a closer look. The various options are arranged into groups. Top of the list is Airplane Mode – because, of course, we are all rich Apple executives who spend all of our time jetting

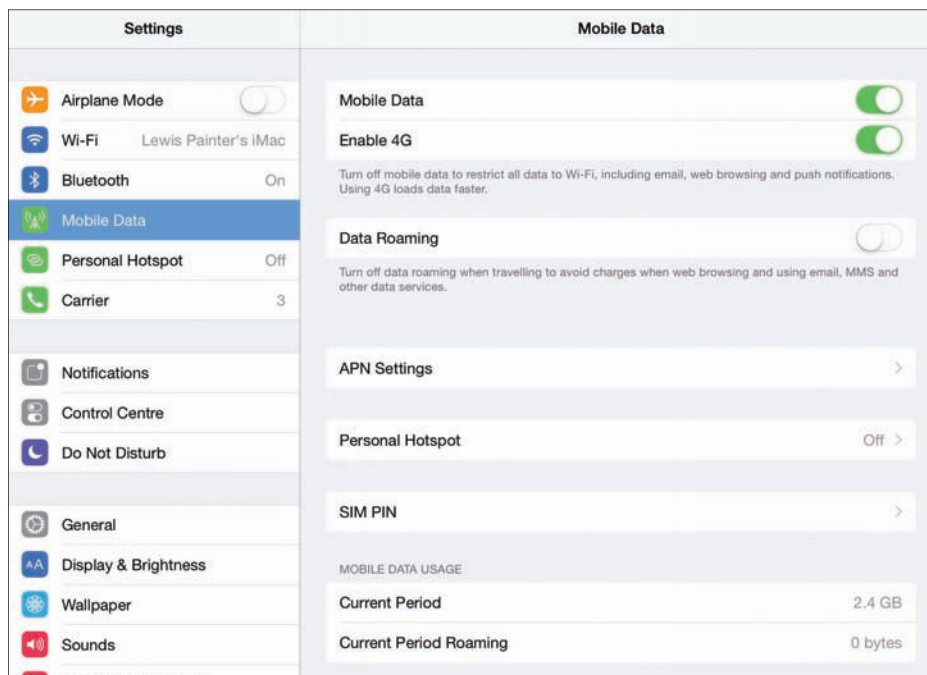


off to meetings. We also use it as a last resource when we are running low on battery as it stops some of the processes on your phone.

## Wi-Fi, Bluetooth, Cellular and Data Roaming

Next on the list are other key settings, such as Wi-Fi and Bluetooth, and on the iPhone and iPads with mobile broadband there are settings for your mobile network and data communications.

One very important option that you'll find within the Cellular settings panel is for Data Roaming. Turning Data Roaming off restricts your data and internet connection to Wi-Fi only, so that you

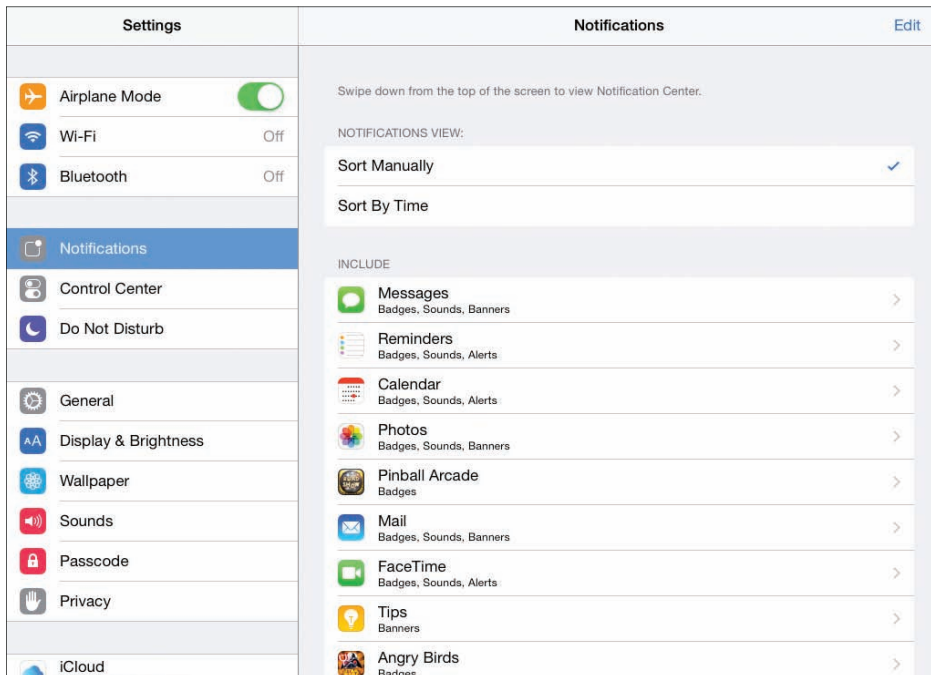


don't accidentally run up a big bill by trying to use mobile broadband when you're overseas.

## Notifications

Further down the Settings list is a group of options that relate to your device's Lock screen. These include the ability to deactivate Control Centre on the Lock Screen, and to set up the Do Not Disturb option, which can be used to silence incoming calls and notifications.

You can also activate Do Not Disturb by using Control Centre – it's the crescent moon icon right at the top – or set up a schedule so that Do Not Disturb turns itself on and off at certain times of day.





But the most important option here is Notifications. Many of the apps on your iPhone or iPad can send you ‘notifications’ – messages that pop up on screen to announce that you’ve just received a new message in Mail, or perhaps a breaking news story from the BBC News app. It’s useful to know when an important email has arrived, of course, but many notifications can just be plain annoying – yes, Plants Versus Zombies 2, we’re looking at you.

The Notifications panel shows a list of all the apps that can send notifications, and lets you turn notifications on or off for each individual app. You can also fine-tune notifications – perhaps blocking them from the Lock screen, but allowing them to appear when the device is unlocked and in use.

## **Software Update, Auto-Lock and Usage**

The Notifications and Lock screen settings are followed by a ragtag set of options that cover some of the most basic functions of your iPhone or iPad.

The General panel doesn’t sound all that important, but actually includes major functions such as Software Update – so that you can download the weekly bug fixes for iOS 8 – as well as the Auto-Lock security feature, and the Usage panel, which displays information about both battery usage and the amount of storage used by all the apps on your iOS device.

## **Control Background App Refresh**

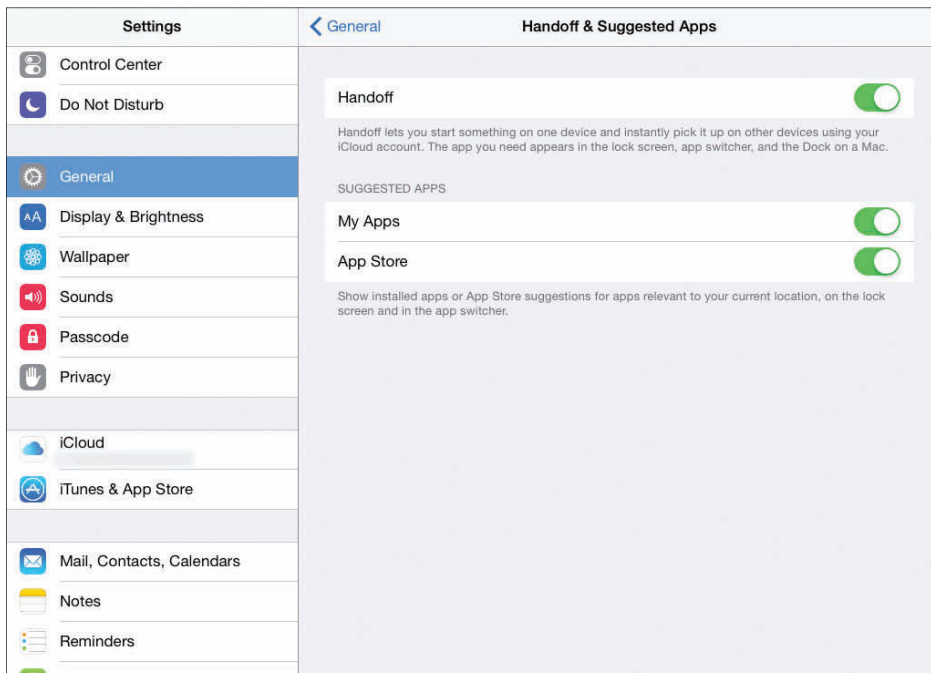
One option that it’s useful to know about is the Background Refresh panel. Many apps, such as



newspapers and magazines, or weather and stock prices, can automatically update themselves with new information even when you're not actually using them. Allowing apps to download data in the background can save time if you're a real news junkie or if you want to make a killing on the stock market, but it can also drain your battery more quickly, so you might want to turn this option off for some of your less essential apps.

## Handoff

Handoff allows you to start using an app, such as Pages or Keynote, on one device and then switch to the same app on another device, so that you can






























carry on working on the same document straight away. You can even pick up a phone call on your Mac when your iPhone rings, or use FaceTime on your Mac to make a phone call via your iPhone.

It takes a little effort to get it working properly, but before you can even start you need to turn Handoff on in this settings panel. Once that's done, you'll see a little icon displayed on the lock screen of your iOS device, indicating any apps that are using Handoff and waiting for you to pick up where you left off.

## Privacy

The General settings panel is followed by a number of other options that control the basic hardware of

Settings	Privacy
 Control Center	
 Do Not Disturb	
 General	 Location Services <span>On &gt;</span>
 Display & Brightness	 Contacts <span>&gt;</span>
 Wallpaper	 Calendars <span>&gt;</span>
 Sounds	 Reminders <span>&gt;</span>
 Passcode	 Photos <span>&gt;</span>
 Privacy	 Bluetooth Sharing <span>&gt;</span>
	 Microphone <span>&gt;</span>
	 Camera <span>&gt;</span>
 iCloud	 HomeKit <span>&gt;</span>
 iTunes & App Store	<p>As applications request access to your data, they will be added in the categories above.</p>
	 Twitter <span>&gt;</span>
 Mail, Contacts, Calendars	 Facebook <span>&gt;</span>
 Notes	<p>As applications request access to your social accounts data, they will be added in the categories above.</p>
 Reminders	 Diagnostics & Usage <span>&gt;</span>
 Messages	 Advertising <span>&gt;</span>

the iOS device. Many of these are straightforward, such as controls for the screen brightness, ringtones and other warning sounds. But, rather oddly tucked away at the bottom of this list, is the all-important Privacy panel.

There are lots of different security and privacy settings in iOS 8, but this particular settings panel focuses specifically on ‘third-party’ (non-Apple) apps that want access to information such as location data, your camera roll and contacts, and even medical data gathered by the new HealthKit features in iOS 8. Every app that requests access to your personal information is listed here, and you can choose whether or not to allow access for each app individually. It’s a bit of a chore going through them all, but it’s worth making the effort to keep your personal data private.

## **iTunes and App Store**

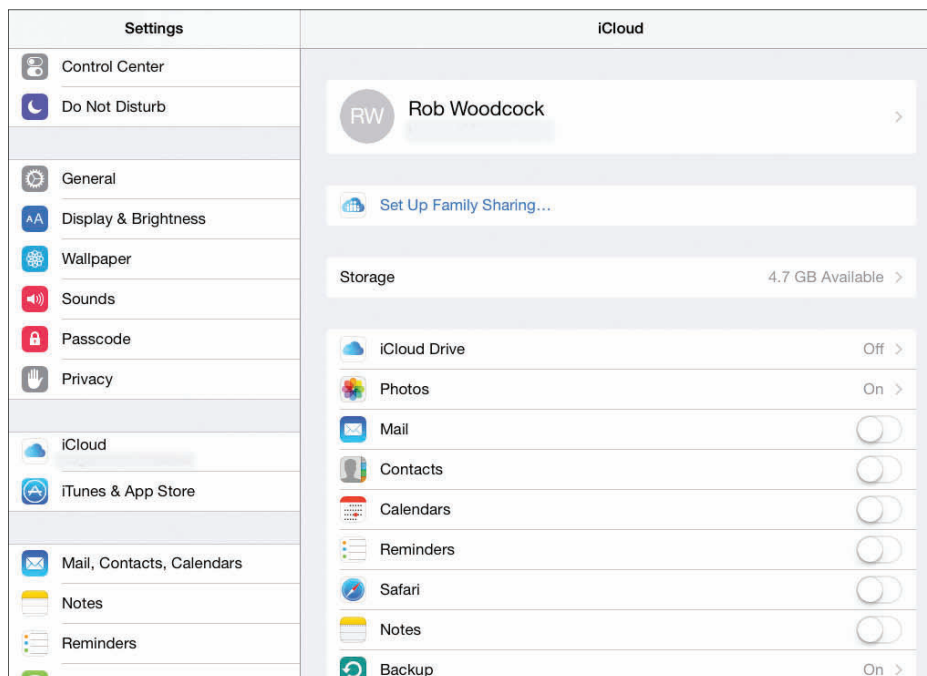
The next two settings panels provide controls for iCloud and your iTunes account. The iTunes options are straightforward enough, although you might want to turn off the Cellular Data option that uses your mobile broadband to automatically download items purchased on other devices – downloading the eighth season of *The Big Bang Theory* or the fifth season of *Game of Thrones* in HD will bust through your mobile broadband data cap in next to no time.

## **iCloud**

You can use iCloud to share photos, emails and contacts, as well as files created in apps such

as Pages, Numbers and Keynote. One really useful iCloud option is Find My iPhone, which can be used to locate any device that's logged into your iCloud account. I mislay my phone around the house all the time, so I often use this feature to find it again – but, more importantly, Find My iPhone works with iPads and Macs too, and can be used to locate your devices if they get lost or stolen.

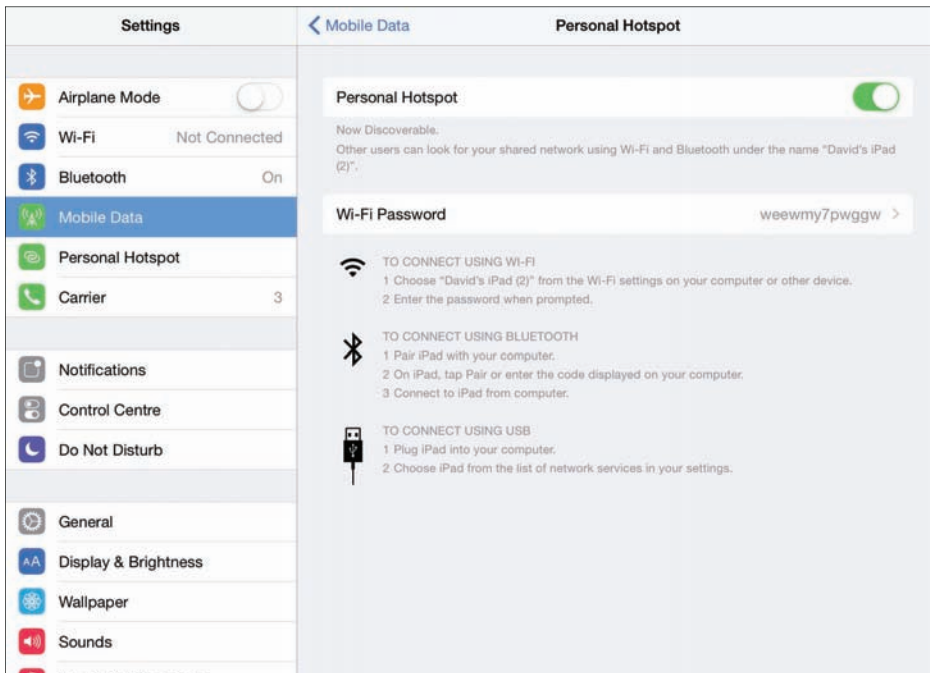
After iCloud and iTunes you'll find settings for a variety of individual apps. These include the standard apps, such as Mail and Contacts that are built into your iOS device, but there are also settings for other apps that you buy and install, so these will vary from person to person.



## Personal hotspots

I travel around a lot with my MacBook laptop, and it can be frustrating when the Wi-Fi coverage in many locations is slow or doesn't work properly at all. Just below Cellular is the Personal Hotspot feature, which has come to my rescue on a number of occasions, as it allows you to share the mobile broadband on an iPhone or iPad with your laptop or other devices. Turning on Personal Hotspot prompts you to choose from two different options. You can connect your iPhone to your computer by using a USB cable, which uses less battery power.

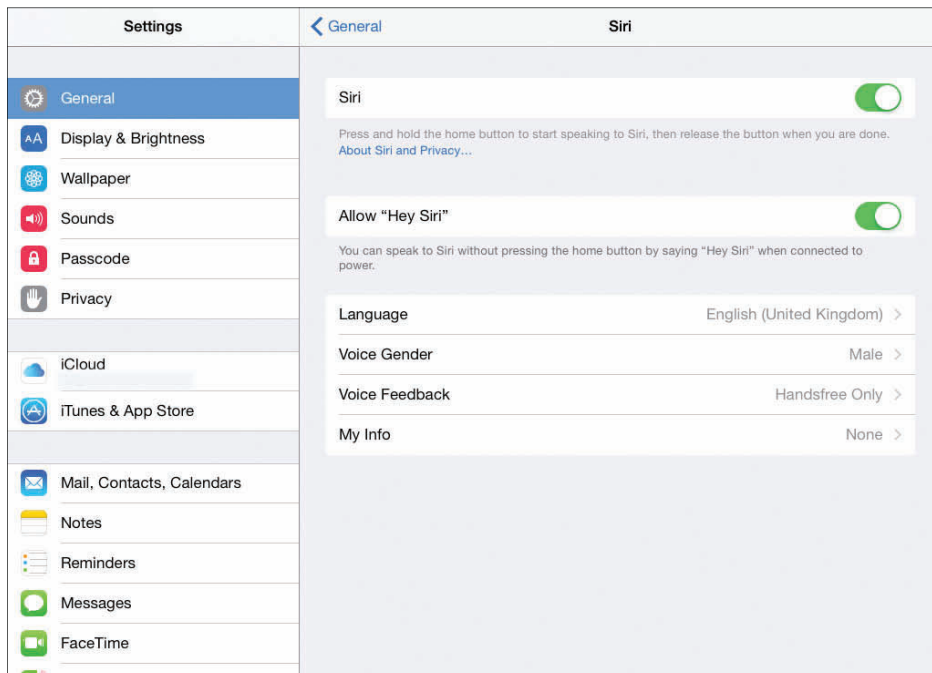
Alternatively, you can activate the Wi-Fi and Bluetooth on your iOS device and link to it using



either of those connections. The connection is also password protected to make sure that nobody else can use your internet connection without your permission. If you have Yosemite running on your Mac, you can even detect when your iPhone is nearby and use your Mac to turn on Personal Hotspot on your iPhone without even having to unlock it.

## Hey Siri

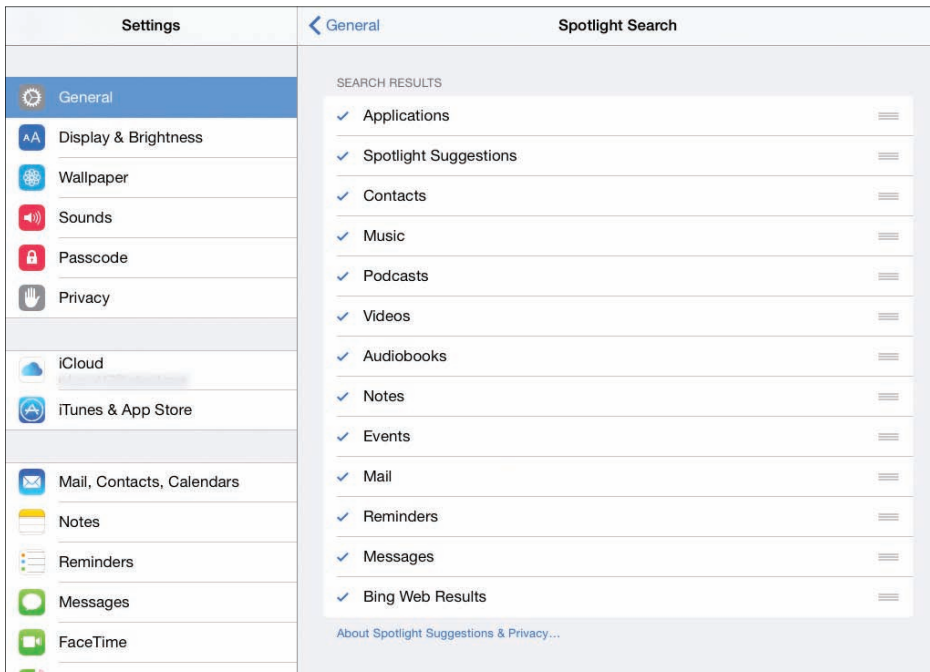
The General settings panel is a bit of a hodge-podge, so it's worth taking a closer look at some of the options hidden in here. One handy feature in iOS 8 is 'Hey Siri', which allows you to activate



Siri without pressing the Home button and just using your voice. When this option is turned on and your iOS device is also connected to a power source, you can just say ‘Hey Siri’ to activate Siri and ask it questions or issue commands. Leaving Siri turned on all the time so that it can listen for your voice commands can drain your battery faster, which is why Apple recommends that you only use this option when your device is being charged.

## Spotlight

Right after Siri in the General settings panel is Spotlight Search, which allows you to control how Spotlight works on your iOS device. You activate





it by pulling your finger downwards on any of the device's Home screens.

By default, it will only do a 'local' search, looking for information or apps stored directly on your iOS device. So, for example, typing in 'key' will show me Keynote, as well as songs from my favourite Stevie Wonder album, Songs In The Key Of Life.

You can, however, fine-tune Spotlight by telling it to ignore certain types of information – such as all those song names. You can also turn on another option called 'Spotlight Suggestions', which will also tell Spotlight to look for info on the internet, or for relevant apps on the App Store.

## Setting Restrictions

A key set of options found within the General settings panel – and one that is particularly important for parents with young children – is Restrictions.

By default, all restrictions are disabled – which means that all your apps run normally – and if you want to enable restrictions you first need to enter the passcode for your iOS device. Once that's done you'll see several different sets of controls that you can use to limit your child's access to apps, making purchases, and unsuitable content.

Under the heading 'Allow:' you'll see a list of apps – including Safari, the Camera and FaceTime – that you can block altogether.

You can also restrict access to the iTunes Store and iBooks Store, so that your children don't run up a huge bill without your permission. When you block these apps they disappear from the iOS

device Home screen altogether, so your children won't even know that they exist.

The one exception here is the iBooks app, which remains visible and will allow anyone to read books that you've already purchased – but which will no longer allow access to the iBooks Store for making any new purchases.

## Controlling in-app purchases

We've all heard stories about children spending a fortune on in-app purchases, so iOS 8 has restrictions for these. Scroll down the list of restricted apps and you'll see two options that allow you to prevent anyone from installing new apps or

Settings	General	Restrictions
Airplane Mode <input type="checkbox"/>	iTunes Store <input checked="" type="checkbox"/>	Apple Music Connect <input checked="" type="checkbox"/>
Wi-Fi Rob Grant's iMac	iBooks Store <input checked="" type="checkbox"/>	Podcasts <input checked="" type="checkbox"/>
Bluetooth On	Installing Apps <input checked="" type="checkbox"/>	Deleting Apps <input checked="" type="checkbox"/>
Notifications	In-App Purchases <input checked="" type="checkbox"/>	
Control Center		
Do Not Disturb		
General	ALLOWED CONTENT:	
Display & Brightness	<b>Ratings For</b> United Kingdom >	
Wallpaper	<b>Music &amp; Podcasts</b> Explicit >	
Sounds	<b>Movies</b> All >	
Passcode	<b>TV Shows</b> All >	
Privacy	<b>Books</b> All >	
iCloud	<b>Apps</b> All >	
	<b>Siri</b> All >	

deleting any of your existing apps. Next on the list is the option to completely block in-app purchases. Oddly, there's no option here to simply restrict access to the App Store in the same way that you can restrict the iTunes or iBook stores.

It is possible to do this, but for some reason this option is hidden a bit further down on the Restrictions panel. Keep scrolling down until you see a section called 'Allowed Content'.

The controls in this section allow you to apply ratings controls for music, video and other types of content – such as age ratings for films. There's also an option here that allows you to prevent any new apps being installed, or perhaps limiting new app purchases to apps that are suitable for a particular age group.

## **Stop Siri**

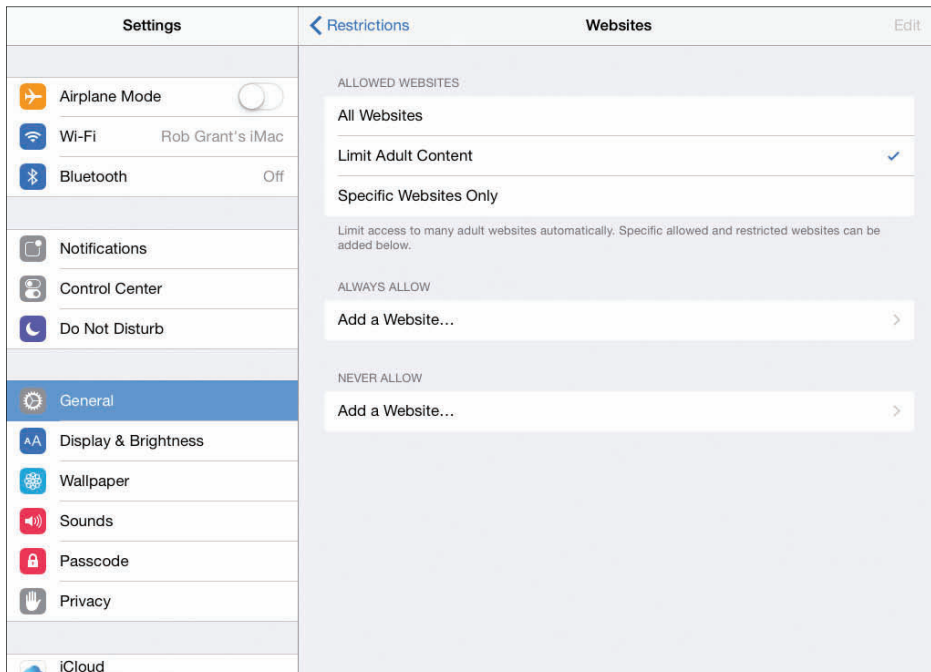
If you decide to leave Siri turned on, you can still make sure it doesn't slip in any unsuitable language or material. Go back into the Restrictions section within Settings, and scroll down to 'Allowed Content'. Just below the ratings controls for music, videos and apps, you'll see an entry for Siri. Tap on this and you'll see two options that you can turn on or off.

Siri will never use adult language in response to a question, but it may repeat bad language that is spoken by others. Turning off the explicit language option will ensure that this sort of language is bleeped out or printed as asterisks on the screen. Turning off the web search option will prevent Siri from looking up information on Wikipedia, Twitter or Bing.

## Website controls

Right underneath Siri in the Allowed Content controls is the website option, which allows you to limit the web sites that can be viewed in Safari. By default, this is set to allow 'all web sites', but tapping on Limit Adult Content will automatically filter out most adult web sites. However, you can still allow or block access to specific web sites by entering the address in the 'always allow' or 'never allow' panels.

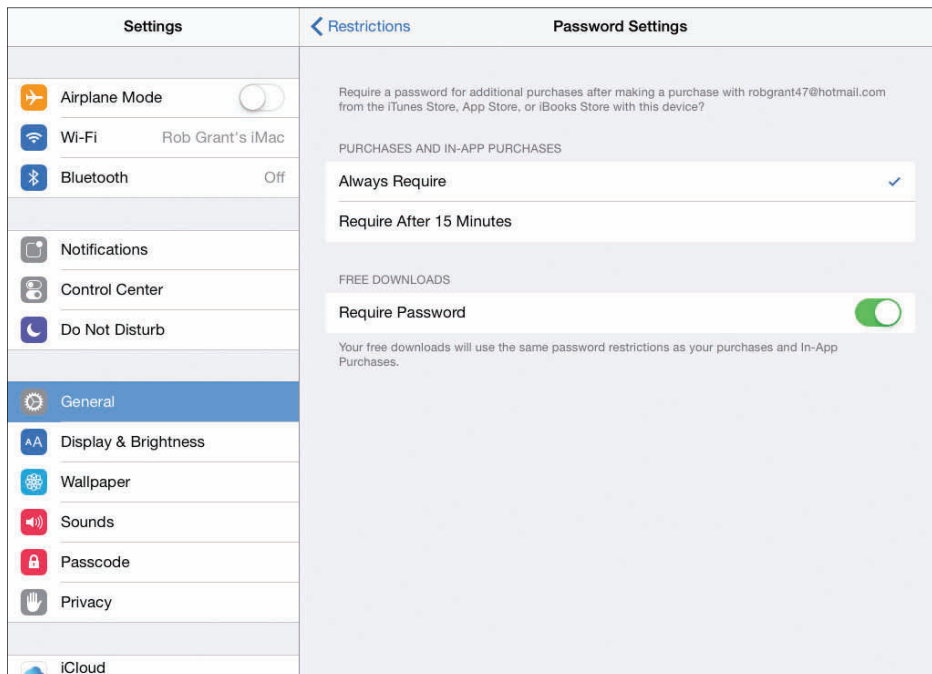
The second option, labelled Specific Websites Only, is the safest bet for young children as it blocks all websites apart from a few child-friendly sites that have been approved by Apple – such as Disney and Apple's own website. If you need to override



these restrictions at any time you can still type a web address into Safari and then tell it to allow that website by entering your password.

## Purchasing

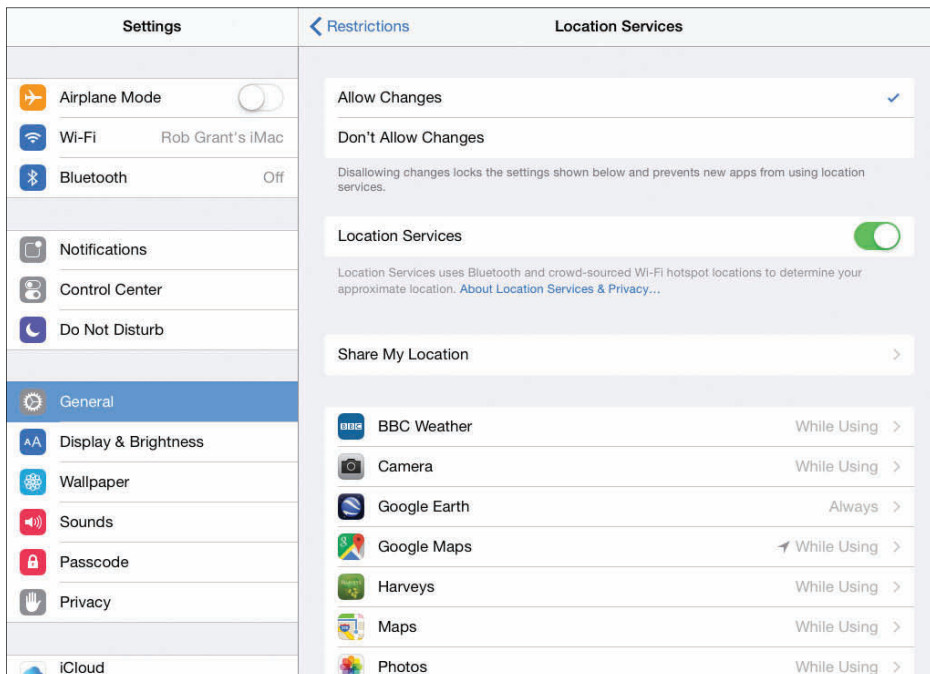
We've already looked at the various options that allow you to restrict in-app purchases or to completely block all types of purchases. Rather oddly, there's another option that Apple adds in here. The Require Password option determines whether you need to use a password when making purchases on your iOS device. If you select 'Immediately', then you'll need to enter your password for every single purchase or download.



The 15 minutes option gives you a slight breathing space, so you can enter your password for one purchase, and then buy additional apps, music or video for the next quarter of an hour without having to enter your password again. There's a safeguard here, though, as you or your children will still need to enter the password in order to make any in-app purchases even within 15 minutes of initially buying an app.

## Privacy settings and Location Services

The next important section within Restrictions is the Privacy controls. There's a long list of options here, which might look a bit daunting, but most of these



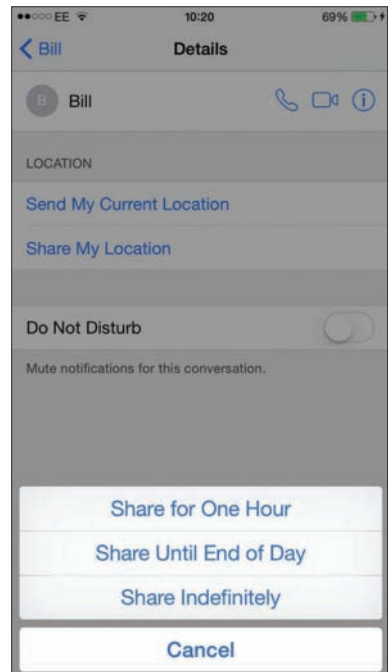
options work in the same way, so we don't need to overload you with too much information all at once.

At the top of the Privacy list is Location Services, which uses a combination of GPS, Wi-Fi and Bluetooth options to determine your location. If you're worried about your movements being tracked, then you can switch off Location Services. The only exception here is that – in an emergency – using Find My iPhone will reactivate location services so that you can find your lost iOS device.

## Sharing your location on an iPhone

Right below the main On/Off button for Location Services is a feature labelled Share My Location.

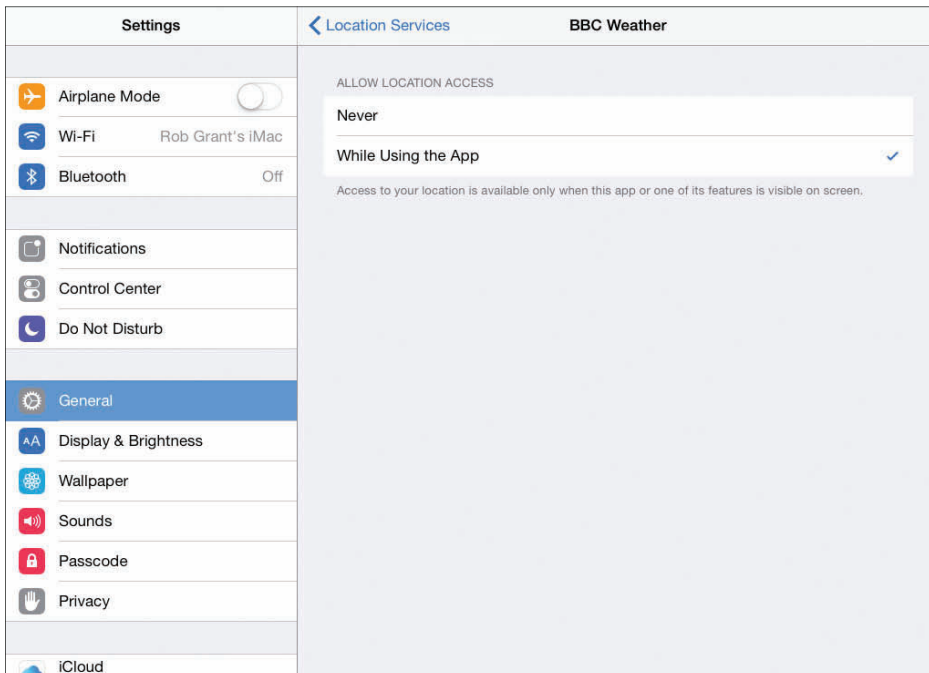
This gives you two options for telling people your location when you contact them using Messages or Find My Friends. If you select 'Send My Current Location' when sending a message you will just send a one-off message telling them your location at that precise minute. Alternatively, Share My Location will allow the message recipient to follow your movements for just one hour, until the end of the day, or to keep following you indefinitely. That's obviously handy if you want to keep an eye on your children, or you're waiting for friends or family to arrive.





## Let apps use your location

It's good that you can turn off location services if you want to, but apps such as Maps or Weather need to know your location in order to work properly, so you also have the ability to control location services for each app individually. Any app that tries to use your location info is listed in the Location Services panel, and if you tap on the name of an app, you'll see two options – 'Never' blocks the app from using location services at all; 'While Using the App' lets the app to check your location when you have it running on screen. I chose the BBC Weather app for this example, but the controls are the same for every other apps that may want to use location services.

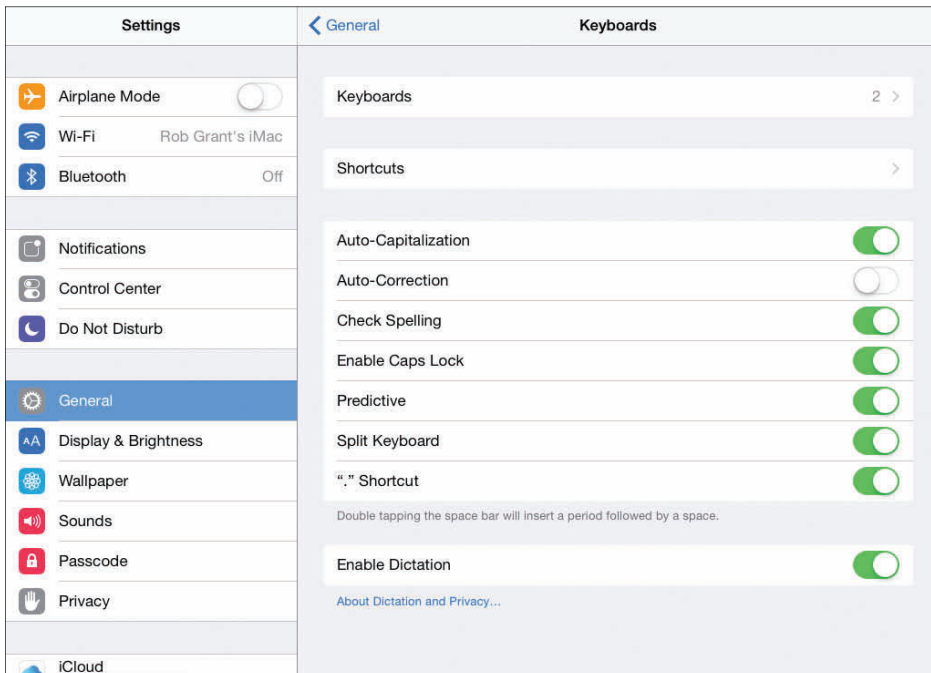


## Making changes to settings

One handy option is the entry marked 'Don't Allow Changes'. You can set up location services for your main apps – for me it's the BBC Weather and Maps – and tap 'Don't Allow Changes'. This locks the settings for those apps so they work the way you want, but blocks any new apps you might download from having access to location services. If you change your mind, tap 'Allow Changes' to change the location settings for all your apps once more.

## Keyboard control

One of the big changes introduced in iOS 8 was the ability to use third-party keyboards, as well as the



standard onscreen keyboard that is built into iOS 8. When you download a new keyboard from the iTunes Store, it will appear on the Home screen of your iOS device just like any other app. However, you also need to go into Settings in order to activate each keyboard you want to use.

Go into Keyboard settings and then tap Keyboards at the top of the screen. You'll see the standard iOS English keyboard listed, along with the Emoji keyboard that displays smiley faces and other symbols. Beneath those is the option to 'Add New Keyboard'. Tap on this and you'll see whatever keyboard apps you have installed. We've downloaded two new keyboards – Fleksy and Swype – that we want to try out.

Tap the name of the keyboard and you'll be asked if you want to give the keyboard 'full access'. Some people worry about this, as it means that the keyboard app could record everything you type and send it off to the developer of the app. But any app that did this wouldn't sell very well, so developers generally don't abuse the access that you grant them.

## Shortcuts and dictation

Shortcuts give you a quick way to type out common words or phrases. One shortcut is already built into iOS 8 to help you get started – it lets you type 'omw' and then expands that into 'on my way'. You can add other shortcuts of your own for things like email or web addresses, so we'll add 'mw' as a shortcut that will allow us to automatically type out macworld.co.uk whenever we need to.

The keyboard settings in iOS 8 also include an option that allows you to activate speech-to-text dictation on your keyboard (which used to be part of Siri). Turning this on displays a microphone icon on the keyboard, so you can talk instead of typing. Just remember that dictation requires an internet connection while you're using it, and that it works only with the standard iOS 8 keyboard so we can't use it with the third-party keyboards we installed just now.

There are a few other options in the Keyboard settings as well, but these are mostly straightforward On/Off controls for things like the automatic spelling-checker and the Caps Lock button.

## **Wi-Fi sync options**

When iTunes was first launched more than a decade ago, the idea was that you would buy music and video using iTunes on your Mac, and then download your purchases onto an iPod using a USB cable connection. Nowadays, though, many of us do everything on our iPhones and iPads, including buying apps, music and videos, and we often forget to backup our purchases on to our Macs.

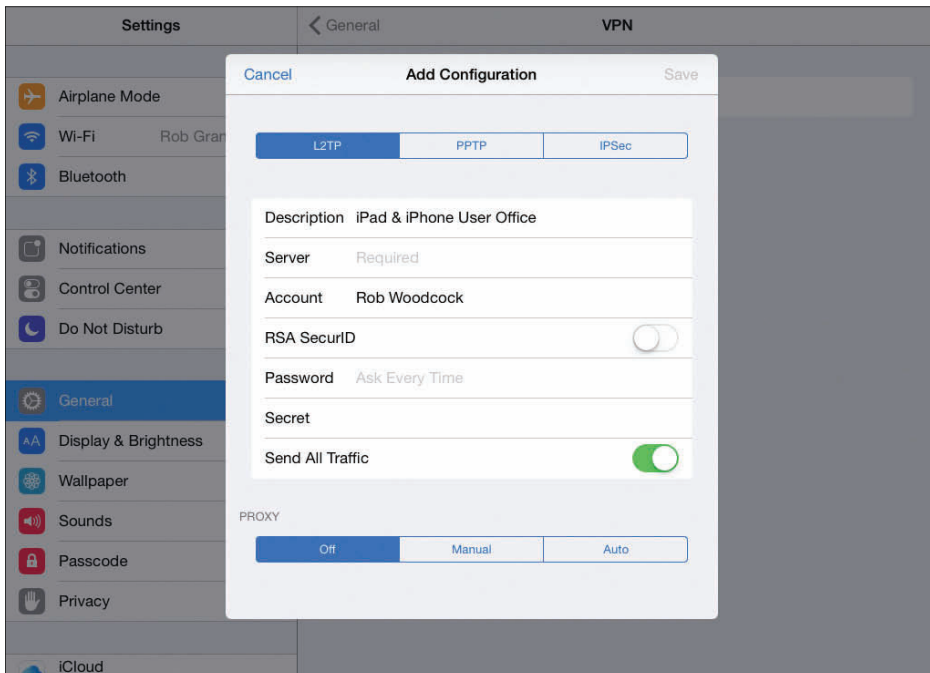
But, just below the Keyboard settings there's an option called iTunes Wi-Fi Sync. Ironically, you still have to use a USB cable to connect your iOS device to your Mac and select the Wi-Fi Sync option within iTunes on your Mac in order to activate it on your iOS device. However, you need only do this the first time, and after that you can sync all your purchases back to your Mac via Wi-Fi. However, Wi-Fi Sync works only if your iOS device is being charged at the time,

is on the same Wi-Fi network as your Mac, and you have iTunes open on your Mac.

## VPN

VPN – virtual private network – is an important networking tool that can be useful for both big business organisations and ordinary home users. Business users will often set up a VPN for their staff as it helps to keep email and other information more secure when you're away from the office and you have to use Wi-Fi hotspots or other public networks.

Your IT manager can show you how to configure the VPN features that are built into iOS, but it's also possible to download a number of VPN apps from

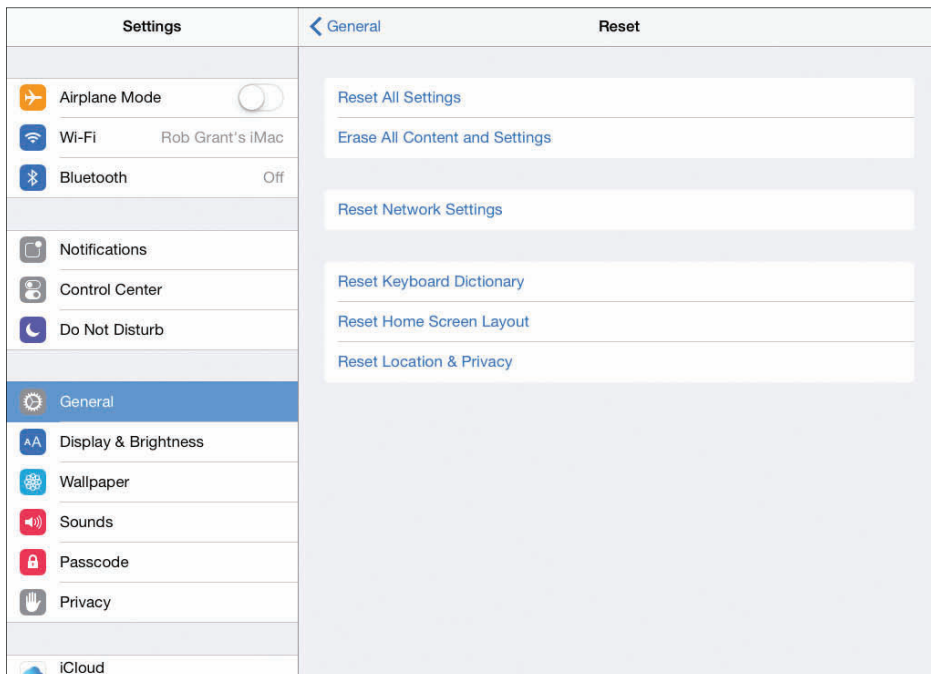


the App Store. Business users will probably avoid these third-party apps and set up VPN themselves, but these apps can also be used for distinctly non-businessy tasks, such as gaining access to the US version of Netflix.

## Reset All

The final option in the General settings panel is one that you will probably never use – until you decide to pass on your iPhone or iPad to a friend or sell it.

The Reset command provides a number of different options. The first is ‘reset all settings’, which leaves all your apps, music and other content alone, and just resets personal preferences, such as new



keyboards or VPN settings that you might have added. We've heard that this particular option can be a little buggy, though, so it's worth backing up your iPhone or iPad on to your Mac before resetting it.

The next option is to 'erase all content and settings'. This is the nuclear option that gets rid of all your personal preferences and settings, along with all apps, music, videos and photos. This is the option that you'd use if you were selling your iPhone or iPad and you wanted to remove all your personal information first.

There are some other options in here as well, although they're a lot less drastic than a complete reset. The network reset tells your iOS device to forget details such as Wi-Fi passwords. One reset option that might be worth using occasionally is the Location And Privacy option. This resets the location and privacy settings for all your apps, which means that any app that tries to access your location, contacts or other information will have to ask permission all over again.

If you want to erase the contents of your iPhone because it's not working properly, you can use the settings to do so and then restore it from a backup.

## **Turn off Parallax effect**

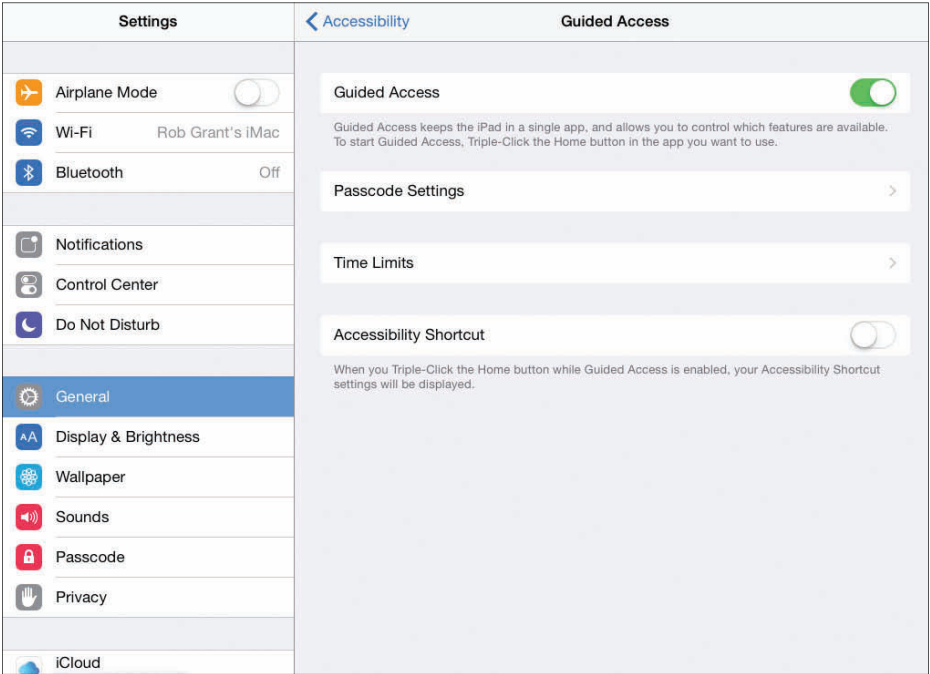
It's taken us a while to cover the long list of options that are crammed together in the General settings panel on iOS devices, but there's one complete group of settings that we won't include here. Like Macs, iOS devices include a number of Accessibility features that are designed to help people who have problems with vision, hearing or motor skills.



However, there are a few options that it's worth mentioning here as they can be useful for many people regardless of whether or not they have visual or other problems. For instance, the infamous 'parallax' effect on the Home screen that makes a lot of people feel sea sick can be turned off by selecting the 'Reduce Motion' option within the Accessibility settings panel.

**Guided access**

Another useful feature is the Guided Access option. When you activate this, you can lock down your iOS device, so that it runs only one specific app. This can be useful for teachers who only want their students



to have access to a particular app during a lesson. You can also block specific features within that app, which is useful for parents who might want to be extra sure that they've blocked in-app purchases, or online features they might feel are unsuitable for young children.

Start by turning on Guided Access in the Accessibility settings, and then launching the app you want to run. Quickly press the Home button three times, and you'll see the Accessibility menu, which allows you to activate either the on-screen Zoom function or Guided Access. Select Guided Access and you will be prompted to use your finger to draw around the buttons or other parts of the screen that you want to block. We'll launch iBooks and then block the features – greyed out at the bottom of the screen – that would allow someone to gain access to the iBookstore and start spending money.

Guided Access provides a number of other useful options too, such as the ability to limit the time a child can spend playing a game. And the only way to turn off Guided Access and leave iBooks so that you can use other apps is by entering your passcode.

## **Brightness**

Moving on from General Settings, the next option that we come across is the Display And Brightness option. This is straightforward, as it provides a simple slider control for adjusting the brightness of your screen. However, the Auto-Brightness option can be a little bit unpredictable, so there's a couple of things that are worth mentioning here.

Auto-Brightness uses the light sensor in your iPhone or iPad to check the ambient light levels around you, and then automatically attempts to adjust the screen brightness for you. The aim is to maintain visibility, whilst also lowering the brightness wherever possible in order to preserve battery power. It doesn't always work though, and some people simply prefer to turn off Auto-Brightness altogether. However, you can modify the way Auto-Brightness works by leaving it turned on and then using the slider control to increase or decrease the brightness. The Auto-Brightness setting will then note that you prefer the brightness to be higher or lower and will use your settings rather than its automatic default setting.

## **Zooming in on the display**

The Display And Brightness Settings also include a number of controls for enhancing screen visibility, which are separate from the more specialised tools found in the Accessibility settings. The Display Zoom allows you to choose Standard and Zoomed views of screen elements such as icons and buttons, while the text controls can be used to increase the standard size of text and to add a bold effect to the text as well.

However, these text controls work only with apps that have been written to specifically support the 'Dynamic Type' feature that is part of iOS itself. As you'd expect, Apple's own apps support Dynamic Type, so you'll see larger text in Mail, Notes and the other apps that are built into iOS. Unfortunately, many apps don't work with Dynamic Type, which is

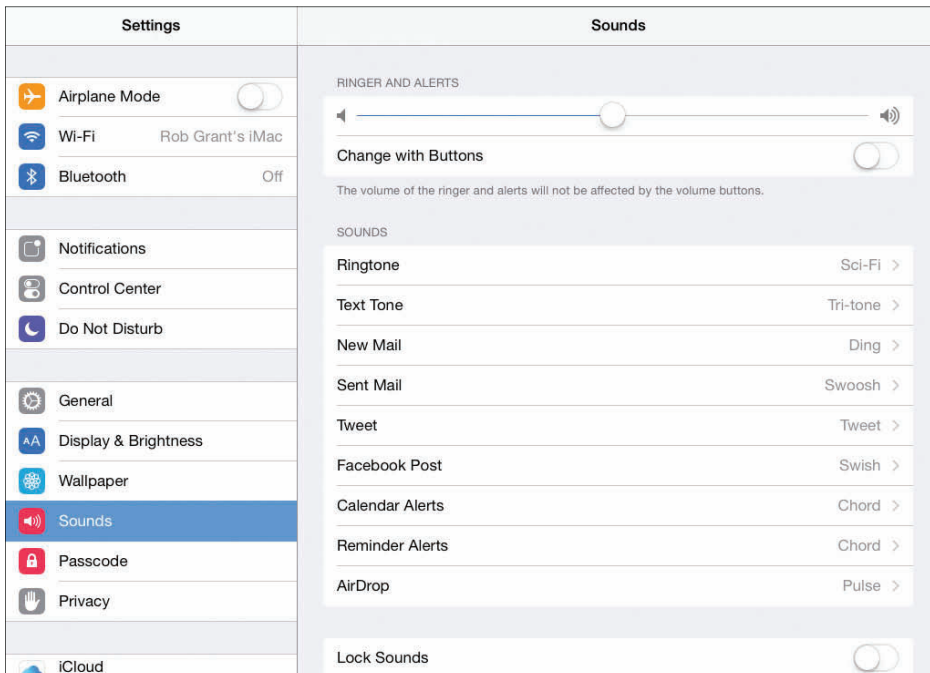
why Apple includes extra Zoom and magnification features within the Accessibility settings.

## Wallpaper

The Wallpaper settings panel is simple enough, just allowing you to change the wallpaper displayed on the background of your Home screen. You can use Apple's ready-made wallpapers, or import your own photos from your Camera Roll or photostreams, but there are no hidden surprises in there.

## Set volume level for alert

The Sounds settings are simple, as they mostly let you choose which sounds play whenever your iOS



device receives calls, emails and other messages that need your attention. But there is one useful option in here that people miss. It used to annoy me that turning down the volume on my iPhone would sometimes cause me to miss messages because I couldn't hear the alert sound properly. Then I realised you can set the volume level for alert sounds separately from the volume level for playing music or listening to video in other apps.

The Ringer And Alerts setting provides a simple slider control, so that you can set the volume level for alert sounds. There's also an option called Change With Buttons. This option is turned on by default and it means that the volume level for alert sounds gets turned up and down along with the volume for everything else when you use the volume buttons on the edge of your iPhone or iPad. But if you turn this option off the volume for alerts remains fixed at the level that you set with the slider, regardless of the volume level used by other apps.

## **Use Touch ID to authorise purchases**

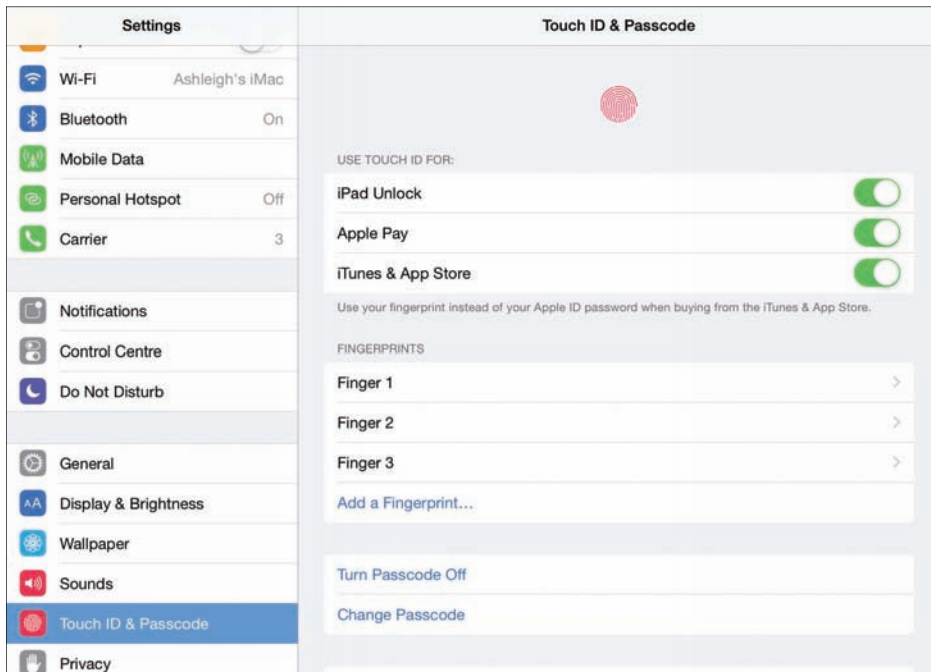
The settings for Touch ID and Passcode are straightforward – which in itself is remarkable when you think about the complex technology that's being used here. However, there are a few options that are worth looking at in more detail.

Touch ID uses your fingerprint(s) as an alternative to your normal passcode when unlocking your iPhone. But that doesn't mean you can forget about your passcode altogether – apart from anything else you'll need it every time you want to enter the Touch ID settings panel.

Once you've got into these settings you can also tell your iPhone to use Touch ID to authorise your purchases on iTunes or the App Store, which is a handy timesaver if you've got a strong-but-complicated password for your account.

## Set up Touch ID

If your iPhone has Touch ID, then it will prompt you to scan your finger when you set the phone up for the first time. Don't forget, though, that you can add multiple fingerprints whenever you want. This is a good idea, as I've found I prefer to use different fingers at different times. I use the thumb on my right hand when holding the iPhone, but I use a



different finger when I've got the iPhone sitting on a desk in front of me.

You can scan up to five fingers, which should be enough for most people, and you can also delete fingers as well. We've seen workarounds on the web that allow you to scan more than five fingers, but we wouldn't recommend doing so as it could muck up your iPhone's security settings.

## **Changing the passcode**

Once you've set up Touch ID it is possible to turn off your passcode altogether, but remember that the passcode isn't used just to unlock your iPhone. It also restricts access to many important settings on your iPhone, as well as passwords and even credit card details that you might have stored in Safari and other apps. There's an option here to change your passcode if you want, and you can also turn off the 'simple' four-digit passcode and use a longer passcode that can contain numbers, letters and symbols too. And, if you scroll right down to the bottom of this panel, you'll find the 'Erase Data' option – the ultimate security option that deletes all data on the iPhone after 10 failed attempts at guessing the password. One other thing to remember is that, even with Touch ID activated, you'll still be asked to enter your passcode each time you restart your iPhone after being turned off, or if you haven't used your iPhone for 48 hours.

## **Decide what appears on the lock screen**

This settings panel also includes a few options that aren't directly related to either Touch ID or your





























passcode, but which affect how the Lock screen works when your phone is still locked.

You can turn the Today and Notifications views on or off in order to prevent anyone from seeing recent messages that you might have received, and you can turn Siri off here, too. The Passbook option can be turned off as well, which ensures that no-one else can use Passbook to spend your money or use your airline tickets (unless they've got your passcode or one of your fingers....).

## Privacy settings

The next section in iOS Settings is Privacy. This is a key set of features, but we've looked at some

Settings	Privacy
<div>  Airplane Mode <input type="checkbox"/> </div> <div>  Wi-Fi Rob Grant's iMac         </div> <div>  Bluetooth Off         </div> <div>  Notifications         </div> <div>  Control Center         </div> <div>  Do Not Disturb         </div> <div>  General         </div> <div>  Display &amp; Brightness         </div> <div>  Wallpaper         </div> <div>  Sounds         </div> <div>  Passcode         </div> <div>  Privacy         </div> <div>  iCloud         </div>	<div>  Location Services On &gt;         </div> <div>  Contacts &gt;         </div> <div>  Calendars &gt;         </div> <div>  Reminders &gt;         </div> <div>  Photos &gt;         </div> <div>  Bluetooth Sharing &gt;         </div> <div>  Microphone &gt;         </div> <div>  Camera &gt;         </div> <div>  HomeKit &gt;         </div> <div> <p>As applications request access to your data, they will be added in the categories above.</p> </div> <div>  Twitter &gt;         </div> <div>  Facebook &gt;         </div> <div> <p>As applications request access to your social accounts data, they will be added in the categories above.</p> </div> <div>  Diagnostics &amp; Usage &gt;         </div> <div>  Advertising &gt;         </div>

of these settings before, as the Privacy panel duplicates several of the settings that can be found in the Restrictions panel within General Settings. We covered the Location Services options when we looked at Restrictions earlier, so we don't need to repeat that information here.

However, your apps can share more than just location data. Those built into iOS – including the Contacts, Calendar, Photos and Health, can share extensive personal data with other third-party apps that you install on your devices. Any app that wants access to your data – such as Google Maps asking for address info from Contacts – should ask your permission when you first install the app. However, keeping track of all the different apps that you install can get tricky after a while, so the Privacy settings shown here allow you to get a quick overview of all the info that you might be sharing.

## **Find out what you are sharing, and with whom**

The iOS apps that can share your personal info are all listed in Privacy, and if you tap on the name of each app you can see which other third-party apps have asked for permission to share your data.

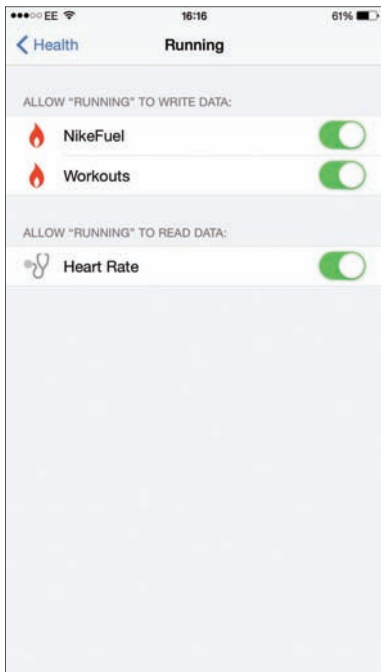
Some of these might surprise you, too – it might make sense for Google Maps to ask for address info from Contacts, but you probably didn't realise that Google Maps has a 'voice search' option that can control your microphone, too. That's a legitimate use for the microphone and, of course, a wonderful company like Google wouldn't dream of infringing anyone's personal privacy.

But in the hands of someone less scrupulous your microphone could be turned into a bugging device that listens to every word you say. So it's worth checking these Privacy settings every now and then, and turning off any sharing options that don't seem to be absolutely essential.

## Let apps share data

It's also worth remembering that the ability to share data between apps is a two-way street. Apple's Health app, for instance, allows third-party health apps to both 'read' and 'write' data. I've got the Nike Running app on my iPhone and this can 'write' my workout and running data to Health, so that Health

can compile a better overall picture of my physical condition. However, the Nike app can also 'read' other data, such as my heart rate, from Health and let me know when I'm overdoing things a bit.



## Cloud options

It may sit a long way down the list of options in the iOS Settings panel, but iCloud is one of the key technologies that sits right at the heart of both iOS and OS X. When it was launched back in 2011, iCloud was just designed for syncing emails and photos between your iPhone and your Mac.

However, it has matured into a sophisticated cloud storage system that can share all sorts of personal information across multiple devices.

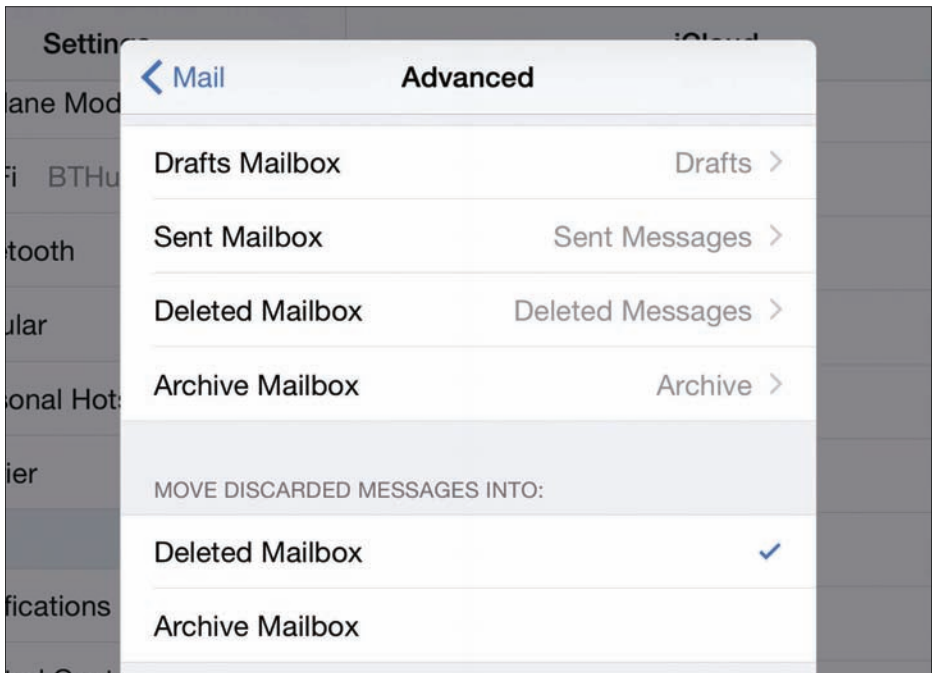
One of the most important new features that was added to iCloud in iOS 8 is Family Sharing. This allows one person – known as the ‘organiser’ – to create a special ‘family group’, and to then invite up to five family members to join that group. Family Sharing works on devices running iOS 8, Yosemite on Macs, and even on PCs running Windows (though you’ll need to download the iCloud for Windows software from Apple’s website).

The only restriction is that the organiser has to be an adult, with a credit card linked to their Apple ID account. The organiser agrees to pay for any purchases made by members of the family group, and any purchases made by any member of the group are automatically made available to everyone else in the group. But don’t worry – there are options within Family Sharing that can prevent your family going crazy with your credit card.

## **Adding family and approving purchases**

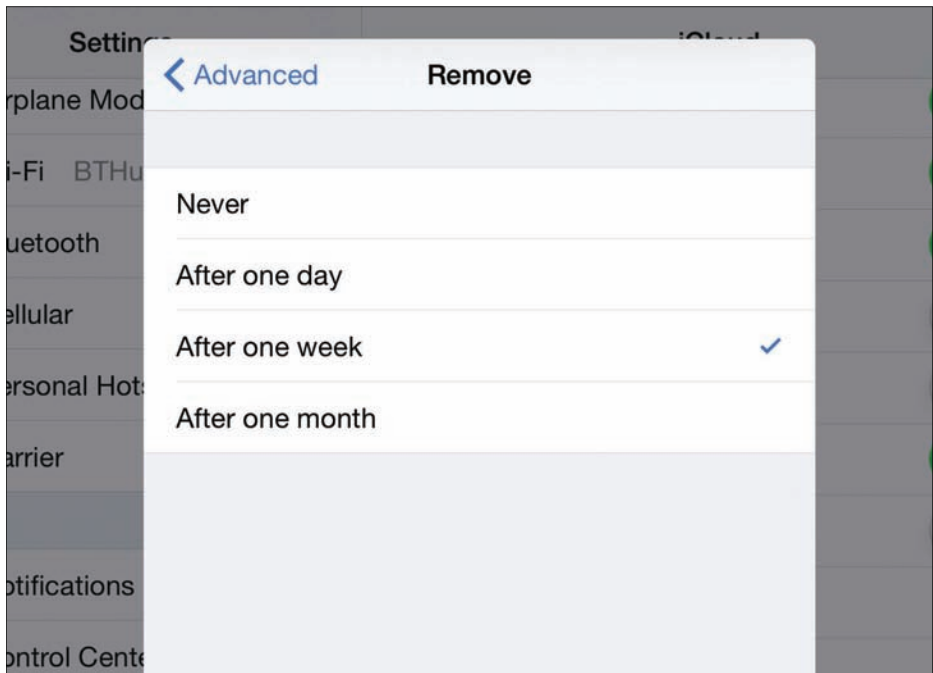
Once you’ve created a family group, you can send invitations to the other family members that you want to include in the group. This requires that each family member has their own Apple ID account. In the past, children under the age of 13 weren’t allowed to create Apple IDs on their own, but iOS 8 introduced a new system that allows parents to create and control special Apple ID accounts for younger children. There is also a separate option for creating Apple ID accounts for students and older children.

These accounts for children also include an option called Ask To Buy that gives parents the ability to approve or block the purchases that their children make. When the child tries to make a purchase they will see a message on the screen of their iOS device telling them that their parent will be informed of the purchase, and asking them if they want to change their mind before going ahead. If they do go ahead with the purchase, then another message will be sent to the parent/organiser giving them the option of allowing or blocking the purchase. The Ask To Buy feature is automatically turned on for all children under the age of 13, but you can leave it turned off for older children and other adults in the group.



## Share apps and iTunes purchases with other family members

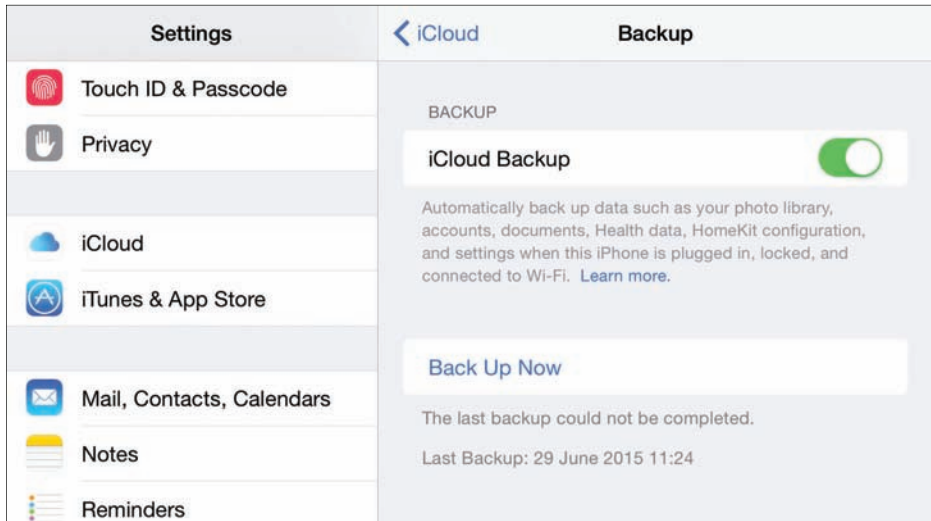
The Ask To Buy option allows you to stop young children from making unsuitable purchases – such as violent action games, or blood-spattered episodes of *Game Of Thrones*. However, any purchases made by one member of the family group can be shared with everyone else in the group, which means that purchases made by an adult could still be seen by a child. If you want to prevent this then you'll need to use the Restrictions settings on your child's personal iOS device to set age limits for video, games and other material. It's also possible to review the purchases made by



members of your family group to make sure that nothing unsuitable gets through accidentally. If you tap the More button at the bottom of the screen in the iTunes Store app you'll see an option to view all your purchases, including those made by other members of your family group.

## Shared Photos and Calendars

Family Sharing isn't just about spending money on the iTunes Store. When you set up your family group you automatically create a new photo album that is shared by everyone on the group. All group members can upload and share photos, and there's an option to receive a notification whenever other people in the group upload photos too. Most Family Sharing features require iOS 8, but the photo-sharing features work on iOS 7 as well, so kids with older iPads and iPod Touch models can still share

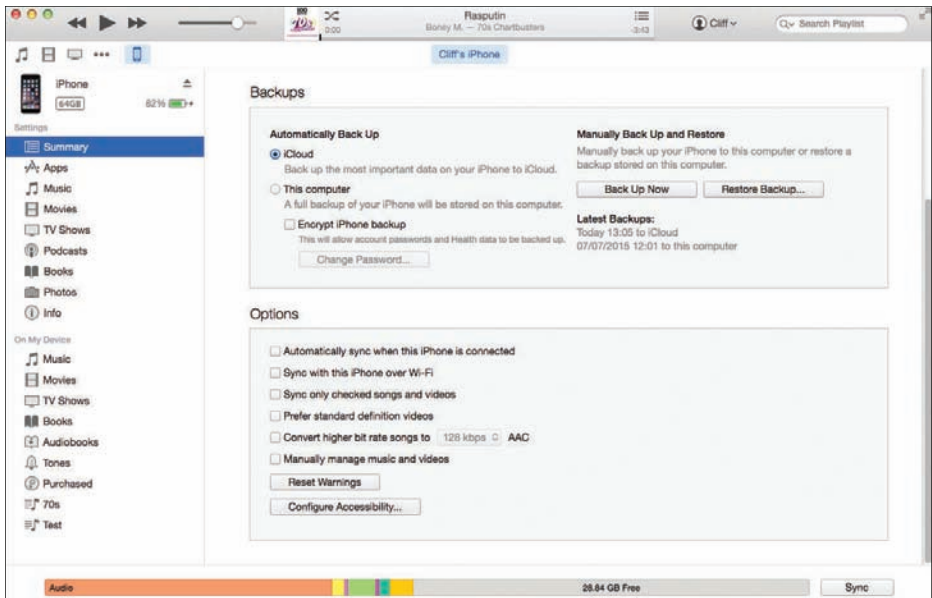


photos without you needing to buy a new device that can handle iOS 8.

You can also create a shared calendar that works in a similar fashion, allowing family members to add events and receive notifications for birthdays, appointments and other events. The Reminders app is included here too, so you can send a quick reminder to get some milk without needing to use the full-blown Calendar app.

## Track locations

Your kids will no doubt be thrilled to hear that Family Sharing allows you to keep track of their movements as well. Each person that joins the family group has the option of sharing their location information with the rest of the group.





This location information can be found in a number of different apps, including Find My Friends and Messages, as well as in Find My iPhone in case anyone loses a device while they're out and about.

You can turn this option on or off whenever you want, so that's something that you'll need to discuss with your kids. However, for younger children, it is possible to lock the settings for Location Services, using the password-protected Restrictions settings that we've looked at before. And even if a family member chooses not to share their precise location information, it's still possible to activate a special Lost Mode on iOS devices that can lock the device to protect your personal information.

Lost Mode can also attempt to track the device – but can only do so when it's online with Internet access, so it's best to activate location sharing whenever possible for maximum security.

## **iCloud storage**

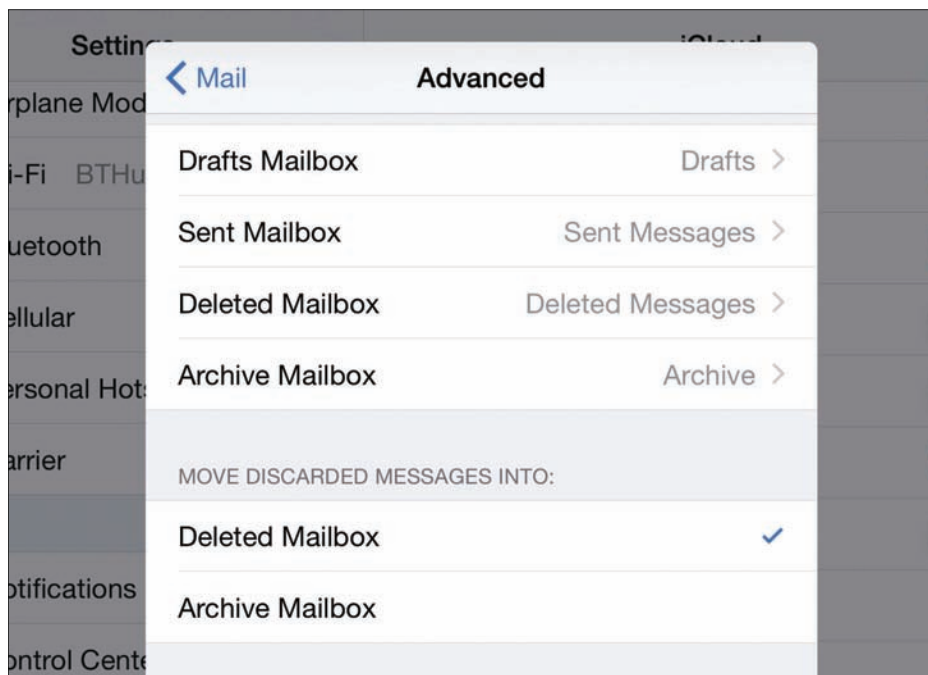
When you create an Apple ID account, you automatically get 5GB of free storage on iCloud, which you can use to store your photos, emails, and your device backups. That's not a huge amount, but the music, videos and apps you buy from iTunes or the App Store don't count towards the 5GB total, so most people can still get by with that basic amount. I use my iPhone and iPad all the time, and I've still got about 4GB spare. If you want to know how much storage you have left you can see it displayed near the top of the main iCloud settings panel.

But, as iCloud adds more new features, such as iCloud Drive and iCloud Photo Library, it gets easier

and easier to fill up that 5GB of storage. Fortunately, you've got a couple of options for managing your iCloud storage, which you can see just by tapping on Storage in the settings panel.

## Get more space in iCloud

The Storage Panel shows you how much storage you've got left. If you take a lot of photos, or use iCloud Drive to store a lot of work files then you might need to pay for some extra storage. However, there's another option that you can try first. Just tap on Manage Storage and you'll see a detailed list of everything you have stored in iCloud. Your Photo Library comes first, followed by backups from all



your iOS devices, and then a detailed list of all the files created in other apps such as Keynote.

I recently moved a load of photos back onto my office Mac, so the Photo Library on my iPhone currently only takes up about 190MB. My iPad backup is bigger, though, taking up 200MB, and there's a number of files that I created in Keynote on my Mac that take up another 190MB on their own. If you're close to your 5GB limit you can see which apps and files are taking up the most space and you might be able to grab back quite a bit of space simply by deleting a few old files you don't need.

## **Remove data from iCloud to make more space**

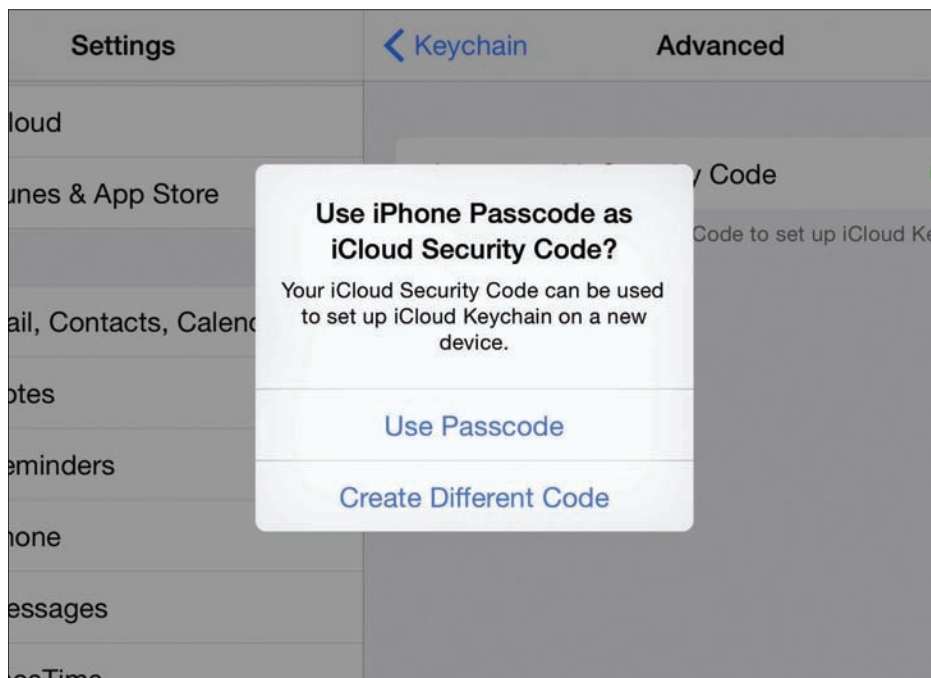
You actually have really fine control over the data that you store in iCloud. Of course, you can delete individual photos and videos from Photos whenever you want, and it doesn't hurt to clear out your email Inbox now and then either. You can also delve into iCloud and delete files from other apps too. Just tap on the name of any app in the Manage Storage panel, and you will see a list of every single file created by that app, along with the size of each file. I wrote an article on Keynote for Macworld recently, and I've still got a number of large Keynote presentations files that are taking up space in my iCloud storage. But if I tap the Edit button at the top of the screen I can delete individual files that I no longer need, or just use the Delete All command to delete every file created by Keynote.

You can also control which files will be included in future back-ups. If I tap my iPhone in the Backups

list I can see a list of every app that I have on my iPhone, and how much data each app will store when I back-up my iPhone to iCloud. You can click the green button to turn off back-ups for individual apps, and as you do this you'll see an updated count of how large the next back-up will be.

## Removing backups to make more space

After your Photo Library, one of the biggest items that most people upload to iCloud is the daily back-up of their iPhone or iPad data. By default, iOS automatically backs up your iPhone or iPad to iCloud once a day (as long as the device is turned on, connected to power, and connected to a Wi-Fi



network). But if those back-ups take up too much space on iCloud you can simply turn off the back-up function altogether.

Tap on Delete Backup and you'll see another little window pop up that asks if you want to 'Turn off & Delete'. If you go ahead and do this you will delete any back-ups from that device that are already stored in iCloud, and also turn off any future back-ups as well. You can still back-up your iPhone or iPad by connecting it to your Mac or PC and using the automatic back-up option in iTunes, but those back-ups are stored on your computer's hard disk so they don't take up any of your iCloud storage.

## Upgrading iCloud storage

















If these space-saving tricks still don't stop you from hitting that 5GB limit then you might just have to bite the bullet and pay for some more storage. Apple's pricing for iCloud storage used to be ridiculously expensive – which is why so many people still use rivals such as Dropbox or Microsoft's OneDrive. However, Apple cut the prices of iCloud storage quite drastically last year, following the introduction of iCloud Drive.

Go back to the main Storage panel and tap Buy More Storage, and you'll see a price list for the different iCloud storage options. You can upgrade to 20GB – and that's 20GB total, not 20GB on top of the original 5GB – for just 79p a month. There are also plans for 200GB at £2.99 per month, 500GB for £6.99, and 1TB for £14.99. Rivals such as Dropbox, Google Drive and Microsoft's OneDrive are still cheaper – with Microsoft and Google both offering

a really handy 15GB of storage for free – but the simplicity of iCloud and its ability to seamlessly share all your important files and data across multiple devices is really useful if you own a lot of Apple products. And, of course, you can use more than one cloud storage service if you want. I mainly use iCloud for syncing photos and emails across my devices, but I also have a free Dropbox account that I use as an emergency back-up for important work files on my office Mac.

## iCloud and apps

Keeping an eye on your iCloud Storage is even more important when using new features such as iCloud Drive and iCloud Photo Library. However, the iCloud Settings panel also includes a number of options that determine how iCloud works with individual apps on your iPhone or iPad. If you want

Settings	iCloud
 Touch ID & Passcode	 iCloud Drive On >
 Privacy	 Photos On >
 iCloud	 Mail <input checked="" type="checkbox"/>
 iTunes & App Store	 Contacts <input checked="" type="checkbox"/>
 Mail, Contacts, Calendars	 Calendars <input checked="" type="checkbox"/>
 Notes	 Reminders <input type="checkbox"/>
 Reminders	 Safari <input type="checkbox"/>
	 Notes <input checked="" type="checkbox"/>
	 Calendar <input type="checkbox"/>

to share your Mail messages, Contacts info and Calendar events across all your devices then you need to make sure that you turn on iCloud for each of these apps here. You can also use iCloud to share information from other apps too, such as Reminders and Notes, bookmarks that you have stored in Safari, and also the Passbook app that stores information about airline tickets and for now is your link to Apple Pay. Read: [How to use Apple Pay](#)

It's worth being selective here, as not all apps really need to share data and info across your devices. I have lots of web pages bookmarked on the iMac in my office, but I don't want to mix them up with other web pages that I view on my iPhone, so I tend to turn off iCloud sharing for Safari most of the time.

## Mail options

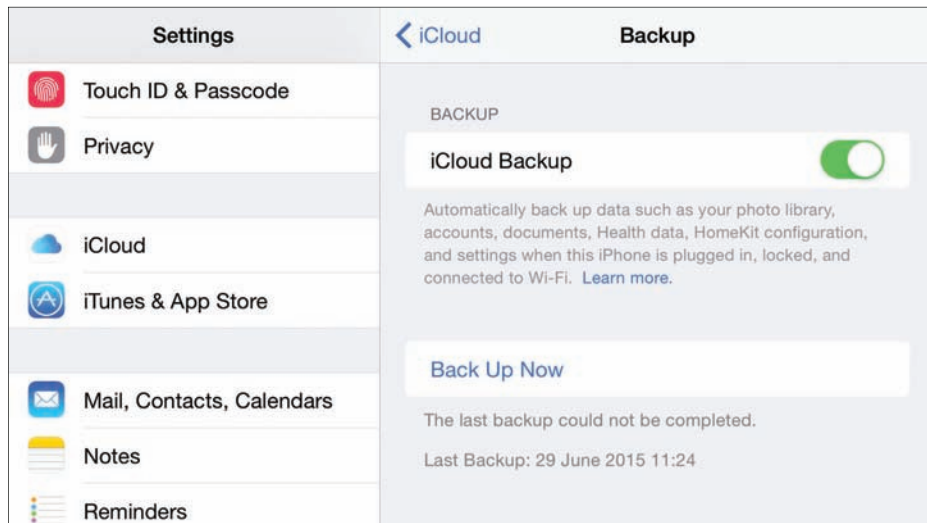
Although there's a simple switch that allows you to turn iCloud On or Off for Mail there's also another set of Mail options that are hidden further down in the iCloud Settings panel. Scroll right down to the 'Advanced' section and tap on the entry for Mail. That opens up a page that contains options for managing multiple email accounts. Scroll down again, and tap on 'Advanced' again, and you'll now see a window that allows you to control how Mail handles different mailboxes. You can actually change which mailboxes are used to store emails that you send and receive. If you're an email obsessive – or Hillary Clinton – you could specify that emails that you discard are archived for future retrieval, rather than going straight into the Trash and being deleted.

You can also specify how long deleted messages stay in the Trash before they are completely removed. You can keep them for one day, one week or one month, or select the 'Never' option which leaves messages in the Trash until you decide to delete them yourself.

## iCloud backup

Important apps like Mail and Safari get their own individual controls for iCloud, but there's another option in here, simply called Backup, that allows you to store data from a number of additional apps too.

The Backup option is a little confusing, as it overlaps with the iCloud Photo Library to some extent. Turning on iCloud Photo Library stores your entire Photo Library in iCloud and updates it continuously whenever you shoot any new photos and videos. The Backup option works slightly





differently. When you activate Backup in iCloud Settings your iPhone or iPad will automatically perform one complete back-up every day – but only when the device is locked and not in use, and is being charged and connected to a Wi-Fi network at the same time. That daily back-up includes photos and videos, just like the iCloud Photo Library, but it also includes data from other apps too, such as text messages, health data that is stored in HealthKit apps, and even details of how you've organised all your apps on your Home Screens.

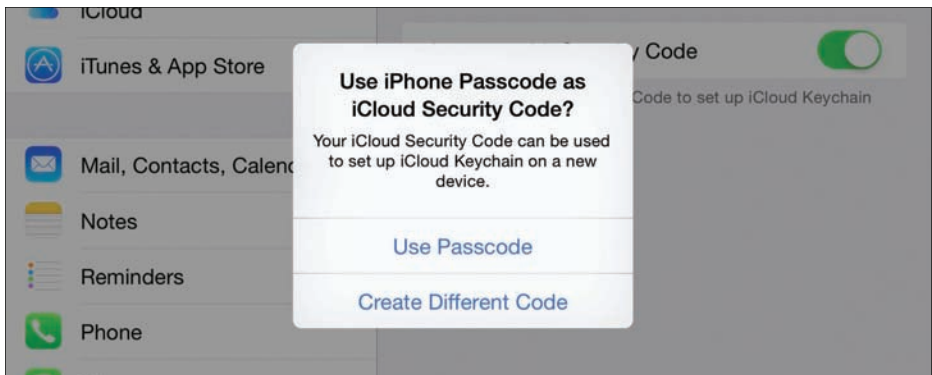
Turning off the iCloud Backup option doesn't affect important apps, such as Mail and Contacts, so your most important data is still protected even if this option is turned off. It's still worth using Backup every now and then though, just in case anything goes wrong with your iPhone or iPad. If you don't want to use Backup via Wi-Fi, you can also perform a manual back-up by using a USB cable to connect your iPhone or iPad to iTunes on your Mac. That's a good option too, as it allows you to store the back-up on your Mac's hard disk, rather than taking up the limited space in iCloud.

## **iCloud security code**

There's one other important type of data that can be stored on iCloud. The iCloud Keychain stores private personal data, such as passwords for email accounts and web sites, and even credit card numbers that you use on sites such as Amazon or eBay. This is very important information, obviously, so you can keep this information extra safe by creating an iCloud Security Code. If someone gets hold of any

of your Macs or iOS devices without your permission they would need to know both your normal iCloud password and the extra iCloud Security Code before they could access your Keychain.

I tend to keep Keychain turned off on my iPhone, so that some important passwords that I have on my office iMac aren't shared with the iPhone when I'm away from the office. But if you want to turn Keychain on then you can simply tap Keychain in the iCloud Settings panel and then click the On/Off button that appears. Underneath that button you'll also see the 'Advanced' option, which allows you to set up the additional iCloud Security Code. There are two options here. You could choose to use your normal iPhone Passcode as the Security Code too. But, of course, if someone manages to get hold of your Passcode then your iPhone is completely defenceless. It's better to create a separate Security Code that has no connection with your normal Passcode. You can either opt for a simple four-digit Security Code or let your device generate a longer, random code number for you.





# Apple updates iPod touch

Apple overhauls its range of MP3 players

Apple has no plans to kill the iPod, despite three years without a major upgrade. The company has refreshed the iPod touch, nano, and shuffle, though only the touch got a big overhaul.

All three iPods will now come in gold, dark blue, and pink (see above), but the iPod touch is the only model to get new features under the hood. It will come with iOS 8.4 and access to Apple Music, which

isn't surprising, but the new version also adds a 128GB model to the line-up for the first time for £329. A 16GB touch will run you £159, a 32GB for £199, and a 64GB for £249. All models are available in-store today, with Apple throwing in two-day shipping for free if you'd rather buy online.

The touch's camera catches up with the iPhone 6 and iPad Air 2, going from 5Mp in the previous generation to 8Mp in the new version. Apple has baked in the iPhone M8 motion coprocessor for better activity-tracking and a new 64-bit A8 chip for powerful mobile gaming. That chip's faster GPU and CPU power Apple's Metal technology, and combined with the new Retina display's 1136x640 resolution, console-style iOS games will look like they're designed to on the new iPod touch.

Apple hasn't forgotten about its original musical revolutionary, but now that the company has embraced streaming, the iPod has to become so much more than a media storage device. Fitness, gaming, streaming, photography – the iPod touch has pretty much every great feature that an iPhone does without being an iPhone. As *iPad & iPhone User* contributor Michael Simon noted recently, the iPod is an iPhone gateway. It's perfect for children and teenagers who want in on the £14.99 Apple Music family plan, but aren't allowed to own smartphones yet. Just look at the company's new iPod touch marketing materials, which emphasise the improved FaceTime HD camera (perfect for taking selfies to share on social networks or with friends over iMessage). Expect the new iPod touch to be a big hit over Christmas.



## Sign of things to come

Why the iPod touch may herald a 4in iPhone 6c

So after three years, we've finally got a new iPod touch. After kicking around with iPhone 4s-era speed, the iPod touch has leaped right over the iPhone 5 and now sports the A8 processor and M8 motion coprocessor of the iPhone 6 and 6 Plus. And at £159 for a 16GB model, it grants access to demanding apps and games for a very good price.

The new iPod touch, for all its advancements, still has the same 4in Retina display as the iPhone 5, 5s and 5c. And it makes me wonder if maybe it's the first hint that we'll be seeing an updated 4in iPhone – let's call it the 6c – this autumn.

### The case for a smaller iPhone

When Apple released the large-screened iPhone 6 and even-larger-screened iPhone 6 Plus last fall, a whole lot of people made a whole lot of assumptions that it was the end of the line for the 4in iPhone. Sure, the 5s and 5c were still in the product line, but

they were destined to drop in price before fading into oblivion as all older Apple products seem to do these days.

That might be the case, but I can't help thinking that the release of the iPhone 6 wasn't a declaration by Apple that it no longer endorsed the 4in display. Instead, perhaps Apple felt that the iPhone 5s didn't need an upgrade (it's even got Touch ID and works with the Apple Watch) at a time when Apple was launching two entirely new iPhone models for the first time ever. Maybe Apple was just taking a year off from the 4in display iPhone.

Perhaps Apple views the 4in iPhone like it views the iPad mini, as a product that's good to keep around but that doesn't need to be on the cutting edge of its product family. The iPad mini 3, released last fall, doesn't hold a candle to the iPad Air. It's got Touch ID, but otherwise uses the same technology that was found in the previous year's iPad mini 2. Essentially, Apple is content with the iPad mini being a year out of sync with the iPad Air. The same could easily be true of the 4in iPhone.

I've read speculation that a new 4in iPhone could be useful for Apple in markets where many potential buyers can't afford the iPhone 6 and 6 Plus. I'm not sure I entirely buy that speculation, but it certainly benefits Apple to have a range of iPhones available at different prices, in different sizes, and yet supporting Apple's most important technologies. A refreshed 4in iPhone with Apple Pay support and an A8 processor – in parity with last year's iPhone 6 and 6 Plus, but not this year's models – might make sense.

Plus, some people just don't like the bigger phones. I have a hard time seeing Apple writing them off entirely.

## Cost considerations

When the iPod touch was announced this morning, I had an interesting exchange on Twitter with someone who wondered about the price disparity between the new iPod touch and the iPhone.

The new iPod touch costs £159 for a 16GB model. In contrast, the iPhone 5s costs £459 without a contract. That's a £300 difference for a device with the same screen and storage, albeit with support for Touch ID and cellular data. Apple currently charges a £100 premium for the cellular-capable model of the iPad, and while that's not a perfect comparison – iPads are data-only devices and are rarely subsidised – let's use it for



a back-of-the-envelope calculation and assume we've still got £200 to account for.

This is the trick with guessing what Apple products 'should' cost. It's not all about the cost of the parts, or even the R&D – sometimes it's about the market for the product. The iPod touch isn't a cellular device. It can't be used as a phone. If you want to roam with an iOS device you can fit in your pocket, you need an iPhone. (This is undoubtedly why there's no cellular model of iPod touch as there is for the iPad – if you could get a cheaper, data-only iPod touch, why get an iPhone?)

The demand for smartphones is vastly greater than the demand for iPods. People are willing to pay more for smartphones because they're incredibly useful. The price of smartphones is also hidden, at least in the US, by the subsidies offered by carriers. If you just look at the price tag and don't consider the monthly fees, the 16GB iPod touch and the 16GB iPhone 6 cost the same: £159. That doesn't accurately reflect the total cost of owning those two devices, which is drastically different, but who ever said that consumer buying psychology ever made sense?

My guess is that there will be a new 4in iPhone this autumn. It might look more like a small iPhone 6, or it might take a cue from the new iPod touch and remain exactly the same on the outside, while being completely different internally. But will it be a "cheap iPhone?" I doubt it. More likely, it'll be outfitted with last year's iPhone 6 technology and fill the slot that's one step down from whatever replaces the iPhone 6.





## Return of the iPod

Why Apple Music could launch the iPod's comeback

**T**he iPod was Apple's original rock star. Back before the iPhone became a global sensation and the iPad led the post-PC revolution, the iPod was the device generating record-breaking sales. Apple's annual music event – where the latest in iPod technology was unveiled to much fanfare – created enough buzz to sustain sales for the next 12 months, and its popularity was such that it created a so-called halo effect that spurred sales of Apple's other products, namely iMacs and iBooks.

Even when its would-be assassin was announced at *Macworld* San Francisco, Steve Jobs stressed

the “widescreen iPod with touch controls” aspect as one of its three tent pole features. In fact, it was the very first thing we learned the iPhone could do, and Steve waited a full 12 seconds until the applause died down and he could tell us the new device was also a phone. And even then, most people just wanted the touchscreen iPod, which Apple delivered a few months later.

But while the iTunes Music Store was specifically targeted at iPod users, it was the App Store that pushed the iPod out of the limelight. By the third-generation of the iPhone, the iOS iPod icon had been supplanted by a more generic Music one, and the annual iPod refresh became an appetiser to the iPhone entrée. Until recently, the iPod hadn’t seen a significant update since 2012, and in June lost its tab at the top of Apple’s website too, fittingly to Music.

But while it may have seemed that Apple had all but forgotten the iPod, the launch of its streaming music service might have the company singing a different tune. Apple Music is tailor-made for the iPod touch, and it just might be the thing that, coupled with the recent updates breathes new life into its range of personal MP3 players.

## **Are you experienced?**

Had Apple the foresight and influence to release a streaming service alongside the iTunes Store in 2003, it would have sold more iPods than it could make. The freedom, versatility and exploration built into Apple Music is made to follow you wherever you go. From Beats 1 to the hand-curated playlists and myriad offline listening selections, Apple has put

tremendous thought into how music lovers want to listen. The iPhone is a large part of it, of course, but your library will travel to all of your devices, whether that's a MacBook, PC, Apple Watch, Apple TV, iPod, or eventually even a Samsung Galaxy S6.

It's about the experience. The very first commercial for the iPod showed a young adult listening to music on his Mac, transferring it to his iPod and picking up the same song as he danced out of the door. At the time it was a novel concept, but in today's world, having tens of millions of songs at our fingertips isn't exactly revolutionary. Still, what elevates Apple Music is the package, much like the iPod was all those years ago.

Apple has always used its services as a way to lock in customers to its ecosystem – once you have two devices operating in concert with



iCloud, the odds of switching drop substantially – but Apple Music is different. Not only does it mark the first and only foray into the world of Android, it's put a focus back on music as a tenet of Apple's ecosystem. And with music, comes the iPod.

## Enthusiastic welcome

It was no coincidence that some sleuths found new iPod images hidden in the latest version of iTunes. But while the new set of colours – gold, darker blue and darker pink variants for each of the models – might give sales at least a small shot in the arm, Apple Music presents an opportunity to truly give the iPod a reboot. If the enthusiasm that greeted the new iPods is any indication, Apple has hit a high note with music fans, combining its trademark design with unique features, such as hand-curated playlists and a global radio station, to deliver an entertainment system that towers above its competitors.

But pairing it with the new iPods would open up Apple's new streaming service to a whole new demographic. No matter how many iPhones Apple



sells each quarter, there are still large swathes of the population who don't purchase them. And while Apple would have a hard time directly targeting all of them, there is one group that it can reach: children. Or, more specifically, their parents.

Unfortunately, though, only the iPod touch will work with Apple Music because it requires a Wi-Fi connection.

## Play it again

Based on most surveys, iPhone usage doesn't generally start until the teen years, but if someone were to track iPod sales, I suspect they skew to tweens and school-aged children. You could argue that Apple Music's most enticing feature is the £14.99 family plan, which allows up to six people to use the same account. And since Family Sharing has opened up iTunes accounts for those under 13 (with restrictions, of course), the whole household can enjoy Apple Music for a very affordable price. Apple hasn't marketed the iPod as a fun, cool device since the days of the silhouette ads, but it might be able to pump up sales with a new campaign that positions the iPod as the ultimate Apple Music player.

The iPod line-up is clearly delineated by features, and Apple doesn't need to shake things that much to make each model more attractive. Prior to the update, the touch was the only model Apple sold that was powered by the lagging A5 chip (it now features the M8 and A8 chip), although it wouldn't hurt to add LTE either, giving it parity with the iPhone.

The iPod nano and shuffle have always been music-centric, but a tight tie-in with Apple Music

could have brought them back to their get-up-and-go roots. Unfortunately not, though. If only Apple could fit the nano with a 4G chip strictly for music streaming (much like Amazon does with its Kindle e-readers), it could be an always-on gadget that puts not thousands of songs in your pocket, but tens of millions.

## **We got the Beats**

While the streaming service was clearly the main motivation behind Apple's purchase of Beats Electronics, there's a whole other aspect to the company, too. And while the Solo and Studio headphones are the source of much ire among audiophiles, they consistently rank among the top-selling models for both iPhone and Android users.

So while I don't think we'll be seeing an Apple logo replacing the trademark 'b' on the ear cups anytime soon, I could see Apple making a special Beats+iPod model that integrates an iPod shuffle into the body of the headphones. With built-in Wi-Fi and Bluetooth, Apple could eliminate the need to carry any other devices on your run, seamlessly syncing your latest playlists without even needing to fumble with dragging and dropping from iTunes.

It could be a major selling point once the Android app lands. Without the benefits of Siri and the iOS ecosystem behind it, the Android version of Apple Music won't add much more than Spotify or Rdio do already. And when you factor in the staunch anti-Apple sentiment some have, breaking through won't exactly be easy. Apple Music may be one of the best streaming services around, but it's

still hard to see many Android users switching to iPhone because of it.

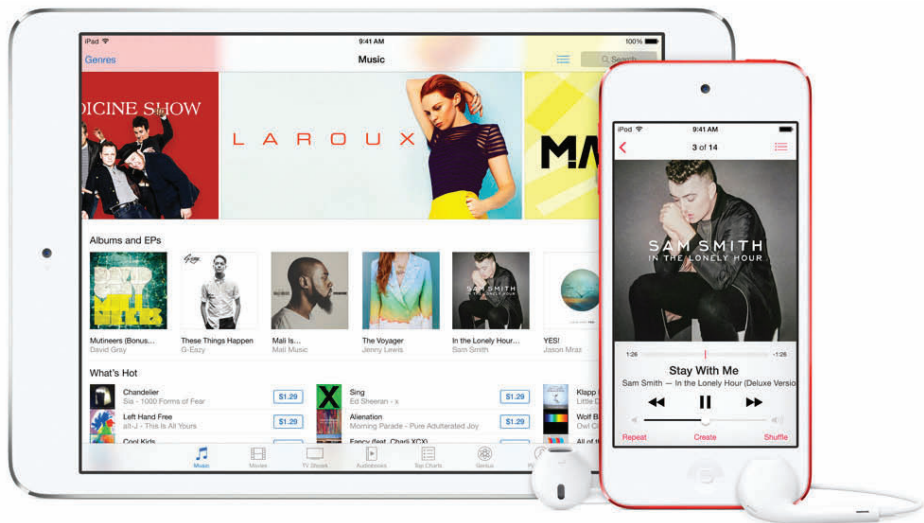
The backing of Beats could, however, help in that regard. Apple Music may be built on the foundation of Beats Music, but aside from the radio station, there isn't anything within the app that ties it to Dr. Dre's brand. A special-edition version of the headphones that integrate directly with Apple Music would go a long way toward soothing some of the hard feelings Samsung and Motorola users have toward the iPhone and Apple.

## Evolution

Music has always been integral to Apple's mission. A large part of why the iPod was such a spectacular success was that it was a labour of love. Steve Jobs wanted an elegant, modern way to travel with his digital music collection, and his vision helped craft an original, unique device that can be traced to nearly every product we hold dear today.

Apple Music might not be as revolutionary, but it marks a conscious return to the company's focus on music. People will argue that Apple is playing catch-up with its streaming service – and perhaps it is – but using Apple Music doesn't feel like a me-too product. From Beats 1 to the carefully crafted playlists and aggressive family pricing, it's clear that Apple has taken pride and care in developing Apple Music, and going forward, it looks to become a major component of its ever-expanding ecosystem.

And it would be fun if Apple took the iPod for one last ride on the tour bus.



# Improve audio quality

Get the best quality audio on your iOS device

There's a lot of fuss these days about high-end audio. In the US, for example, Neil Young is still trying to convince people to part with \$400 for his triangular music player Pono, which he argues will make your ears squeal with glee on experiencing it. The Pono store and others are selling so-called high-resolution audio files, which they claim better more typical downloads in closely resembling what studio recordings intended. And even streaming services are getting in on the act, taking advantage of high-speed internet to deliver less compressed music.

But what if you're perfectly happy with your iOS device, and don't really fancy buying a separate player for audio, and then pretending it's October



2001? What can you do to improve your experience playing music on your iPhone or iPad?

## Audio files

The simplest way is to change the music format you use. Audio can be lossy or lossless. Compressed lossy files (such as MP3 and AAC) have long been the norm in digital. In essence, they approximate a raw music file, attempting to discard ‘irrelevant’ data that people cannot hear, resulting in a smaller file size, but losing information along the way. This is similar in nature to how you can take a high-res scan and then turn it into a compressed JPEG. The trick is in finding the right balance between file size and ensuring that the original content isn’t degraded to the point differences in quality are overly noticeable.

When ripping CDs in iTunes, the Import Settings within General Preferences determine the encoding used. Options include MP3, AAC, AIFF and Apple Lossless (ALAC). AIFF will result in files that sound identical to the original source, but these will be huge: about 10MB per minute. On a Mac with a boatload of storage, this might be okay, but mobile devices are more limited. Unless you only want a tiny selection of music on your iPhone, AIFF is not a good bet. Apple Lossless is compatible with the iOS Music app and will generally take up about half as much space, but sound identical to the original CD. It’s a better bet.

But do not entirely dismiss compressed lossy audio. Using the iTunes Import Settings dialog, you can fine-tune the level of compression for these formats when CDs are ripped, matching iTunes Plus

for AAC (256kb/s, although you can go higher) or setting the bitrate of MP3 all the way up to 320kb/s. Even at their maximum settings, the resulting files will be significantly smaller than AIFF and Apple Lossless. However, at higher bitrates, which discard less information, the vast majority of people won't be able to hear any real difference between AAC/MP3 and the original CD source.

### **Where to buy the best audio quality, high res audio downloads**

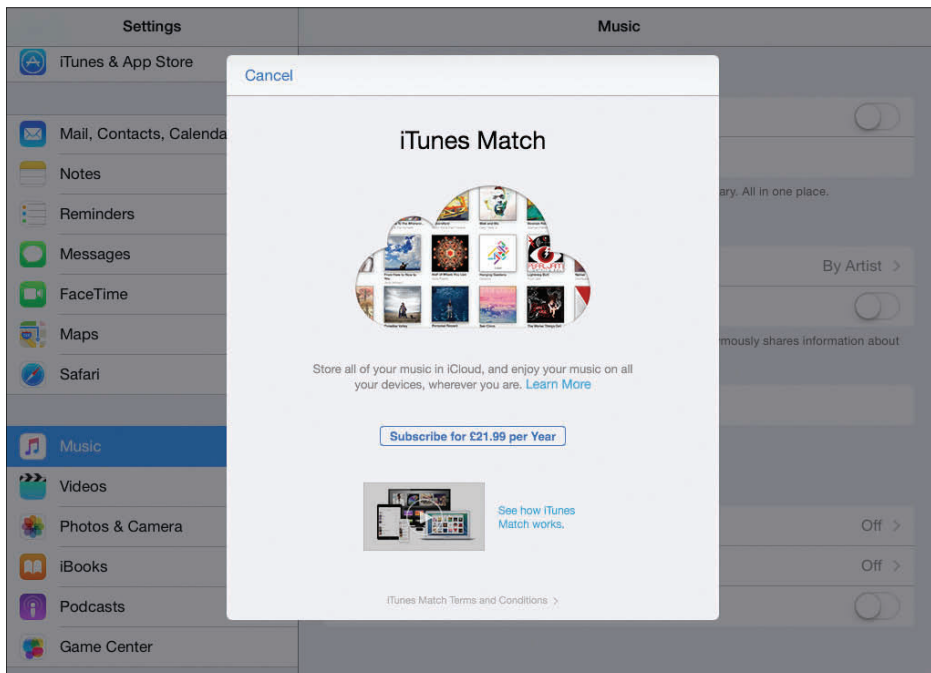
Another thing to bear in mind is where you download music from, if CDs are something you consider should be consigned to history. iTunes sells 256kb/s AAC, and 320kb/s MP3 is commonplace elsewhere online. However, if you bought or downloaded MP3s many years ago, they may be at a much lower bit-rate (128kb/s, say); while most people find it difficult or even impossible to tell the difference between modern iTunes Store downloads and CD audio, 128kb/s removes too much of the original data and can sound noticeably muffled, compressed, tinny, or just plain bad.

Where possible, get newer versions of your files. If you've got a ton of them, consider buying iTunes Match for a year. There are tutorials online about how you can match iTunes library, delete your local files, and then replace them with new 256kb/s AAC from Apple. For new purchases, 'Mastered for iTunes' recordings have gone down well even with relatively picky audiophiles.

Alternatively, experiment with purchasing higher-quality audio files from sites that offer

formats such as FLAC (Free Lossless Audio Codec) rather than just MP3. Note, though, that iOS devices do not support this format by default, and nor does iTunes. Depending on how you'd like to manage such files, you can either convert FLAC downloads to Apple Lossless using something like X Lossless Decoder, or use apps such as Vox Player, FLAC Player+, and CanOpener for directly playing back FLAC on iOS devices.

As noted earlier, some online music stores now plug high-resolution files, which claim to go well beyond even CD audio, although, when you look into it, also beyond the limits of human hearing. You'll see music listed as 24/96, which means



24-bit/96kHz. By comparison, CD audio is 16-bit at 44.1kHz. A larger bit depth results in higher potential dynamic range capture within a specific slice of time, while the frequency refers to the sample rate — the slices of audio captured per second. So 96kHz audio is sampled more than twice as much per second as 44.1kHz audio.

Naturally, the assumption with bit depth and frequency is that larger numbers are better. One thing they certainly are is larger, and this extends to file sizes. If you thought Apple Lossless, FLAC and AIFF audio files were big, high-resolution audio equivalents will seem gargantuan; single albums can easily clock in around the 1GB mark. The snag is 16-bit audio deals ably with what people can hear, and so it's hard to make an argument in favour of higher-resolution audio at the best of times, let alone when you're dealing with mobile devices that have limited storage. (Additionally, there's plenty of discussion online whether even the iPhone 6 and 6 Plus can output high-res audio through their headphone ports, which rather puts a dampener on everything unless you stick an external digital-to-analogue converter between your device and headphones. Not very handy when you're out and about, getting on with your day.)

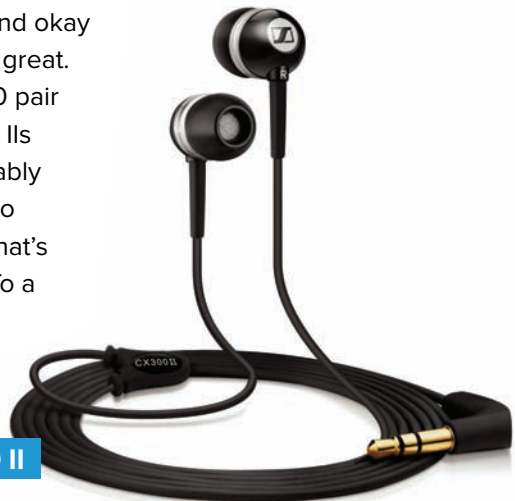
Therefore, when purchasing music we'd say FLAC and Apple Lossless is a good yardstick to aim for, or AIFF/WAV if you're feeling a bit paranoid about lossless compression. Sites such as Bandcamp often give you the option of which format or formats to download, so you can always grab the MP3 or AAC for your iPhone and FLAC or Apple Lossless for

future-proofing. But leave overly expensive high-res audio for the people who claim buying £1,000 cables and 'risers' for speaker leads makes their music sound like unicorn tears caressing their ears. Also, if you're into streaming rather than buying, consider the likes of Tidal over Spotify, but again be mindful that on your mobile device, you might not be able to hear the difference between the former's 1411kb/s streams and the latter's more compressed audio.

## Get better headphones

Beyond ensuring you're not trying to play audio compressed so heavily, it sounds like it's coming from a transistor radio someone threw in a hedge in a garden half a street away, the main difference you can make in improving your iOS audio experience is purchasing new headphones. The ones that come with the iPhone and iPod touch aren't bargain-basement, but they are merely fit-for-purpose in covering the basics. They're fine for calls and okay for music, but far from great.

Even twinning a £30 pair of Sennheiser CX 300 IIs (pictured) with reasonably high-quality lossy audio will greatly improve what's going into your ears. To a point, though, you get what you pay for,



**Sennheiser CX 300 II**

at least up to a few hundred pounds, and so if you can budget a bit more for headphones, your inner audiophile will be happier.

Note that the type of headphones you go for will also impact on audio quality. Over-ear headphones tend to be better than earbuds, although they're of course significantly bulkier. Bluetooth wireless headphones have improved a lot in recent years, but still tend to offer inferior sound quality than wired equivalents, and for a higher price.

In a home setup, you'll again find spending a bit of money helps improve the sound coming out of your device. Often, small speaker docks offer mono rather than stereo output and are essentially the speaker equivalent of cheap earbuds. More expensive speakers designed for mobile can be better, but you must still remain mindful of those only capable of outputting a compromised signal when it comes to the stereo image. When possible, consider buying a hi-fi amp and speakers or a home or office system and connecting your iOS device to that. Note: don't get taken in by snake-oil claims regarding cabling; it's one thing to pay a few hundred pounds for a decent set of speakers, but anyone splashing out the same on a cable to connect their iPhone to their amp is a mug.

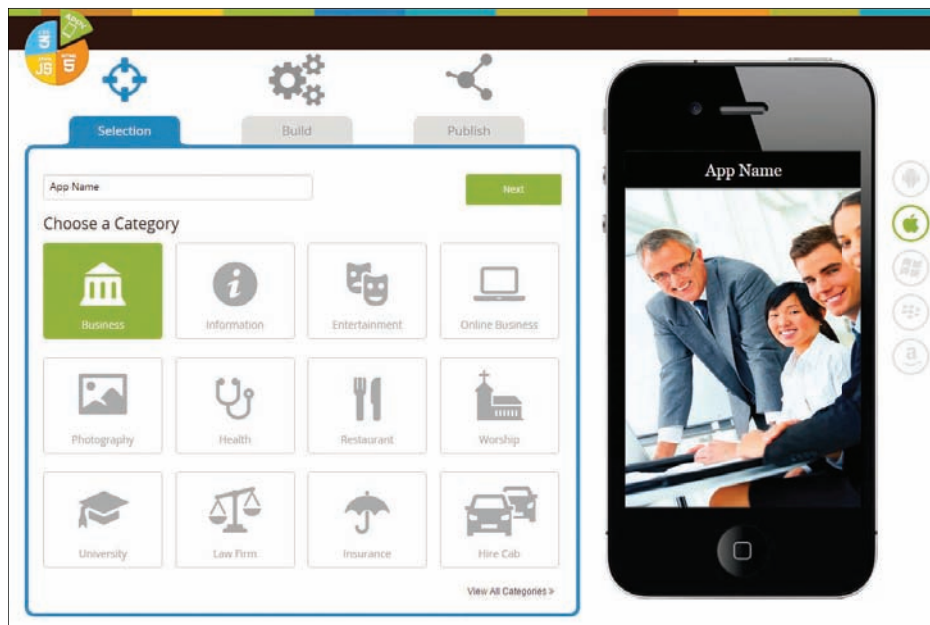
## **The final word**

This guide is a starting point. There are countless pieces of kit and countless opinions about how you should experience audio. It's a very subjective field, and so we'll finish with a few thoughts. First, don't feel bullied into buying a lot of kit because you think

you should. Secondly, where possible try 'blind' tests, to check different headphones and speakers out on music you enjoy. You may find a £50 pair of headphones is fine and – to your ears – no worse than the £200 pair. Similarly, do some blind tests on file compression, because there's no point in re-ripping your entire music collection to Apple Lossless and desperately cutting down the albums you can store on your iPhone if it turns out you can't tell the difference between such files and the same music encoded as 256kb/s AAC.

Also be mindful that a lot of modern music is mastered in a manner that means a lot of nuance has been lost, regardless of the technology you throw at it. Things are slowly changing, but no amount of careful ripping and perfect headphones will save recorded audio designed to punch your ears in. And finally, realise that compromise is inevitable to some extent when dealing with mobile. iOS devices are limited in terms of storage and technology, and so your aim shouldn't necessarily be the best audio experience ever, but one that you consider good enough for the effort you make and the financial outlay you can happily afford.





## Build your own app

Give your business a boost by creating your own app

**S**mall business owners. Have you ever considered going mobile? That is, making an app for your business, whether it's a restaurant, store, or events company? It's not a bad idea. After all, you know your customers are on their phones 24/7, so you might as well capitalize on that.

The good news is that doing so isn't nearly as difficult or as expensive as you might think. In fact, you don't even need to hire an outside developer to create an app for your business. There are plenty of DIY app-building services on the market, which offer



intuitive app-creation tools and app hosting for a low monthly fee. We tried out several DIY services and found that Appy Pie, Como, and GoodBarber are all especially user-friendly for people who have never built so much as a website (let alone an app). Here's how they work.

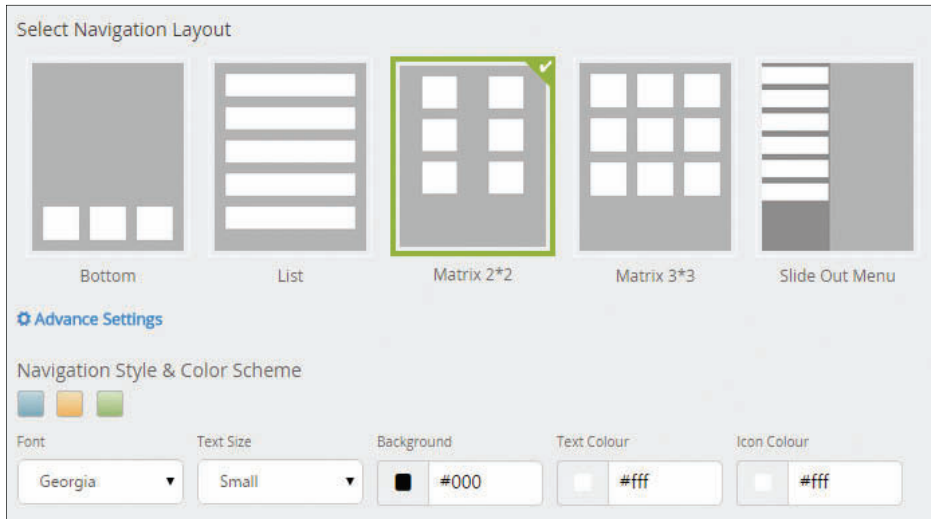
## **Appy Pie**

Appy Pie ([appypie.com](http://appypie.com)) prides itself on being simple and easy to use – hence its tagline: “Make an app, as easy as pie.” This code-free drag-and-drop app builder is easy to navigate (and supported with helpful pop-ups, video tutorials, and a live chat box), and even a complete tech newbie will be able to create a professional-looking app in a few hours. The main drawback of Appy Pie's service is that the app page layouts are rigid, and so anyone not familiar with code will end up with a cookie-cutter app. This isn't a bad thing, but if you're looking to create a work of art, Appy Pie's basic builder may be too simple for your project.

Getting started is a snap – you don't even have to sign up for an account to start building your app for free. Appy Pie offers three tiers of paid services, as well as an extremely limited free account, which basically functions as a trial for the paid services. The three tiers are labelled Basic, Gold and Platinum, and, like most of the services in this round-up, the middle tier will get you the most functionality for your money. The Basic plan starts at \$7 (£4.50) per month, only supports Android devices, and does not allow for ads. The Gold option starts at \$19 (£12) per month and supports both Android and iOS devices,

and allows for monetisation and unlimited push notifications. The Platinum plan starts at \$33 (£21) per month, supports Android, iOS, Windows Phone, BlackBerry, and Kindle Fire, and also allows you to remove Appy Pie's branding – in essence creating a 'white label' app.

Building an app with Appy Pie is a three-step process: First, you name your app and choose a category; secondly, you build your app and add content; and third, you publish your app (though you'll still have to wait for it to be submitted and approved before it shows up in any app stores). Step One is straightforward – your app's name can be no longer than 30 characters and cannot contain any special characters, including apostrophes. (If your business is called 'Sarah's Diner', or something similar, you can change the display name that appears at the top of the app in step two.) Appy



Pie then lets you categorize your app in one of 24 categories (this can be edited later), and has categories for businesses, law firms, restaurants, charities, as well as a broad 'other' category.

Step Two is the longest step, and this is where you'll do all of the app creation. Appy Pie's app builder features what it calls a 'drag-and-drop' interface (but what is more of a 'click-and-fill-out-a-form' interface) alongside a large live preview of what your finished app will look like. The builder has two main sections: App Pages, which is where you will add and edit the different pages for your app; and Style and Navigation, which is where you can edit how the app looks, including changing the background, icon, splash screen, colours and navigation layout.

Adding pages and content to your app is easy. In the App Pages tab, you'll see several boxes along the top of the screen, each of which represents a different page in your app. To add a new page, simply click one of the boxes that doesn't currently have a page, and then choose a page layout to add it to the mix. Depending on what type of business you have, Appy Pie offers a variety of pre-made layouts, including information pages (about your company, contact, customer testimonials), social media pages (Facebook, Twitter, Google+, LinkedIn), multimedia pages (RSS feed, photo, video, blog), and mobile commerce pages (commerce, coupons, loyalty cards). Each layout has its own specific customisation options, but you'll always be able to change the page's name (how it appears in your app's navigation) and icon.

Some of Appy Pie's page layouts allow you to build your own content – there's a form builder for creating fillable forms, a quiz option, and straight text and code pages if you want to build from scratch.

Once you've added pages to your app, you can start editing the aesthetics in the Style and Navigation tab. Here, you can change your app's icon, upload a new splash screen, change your app's category, and edit the title that appears at the top of the app screen (you can change it, upload a banner, or choose to have no title displayed at all). You can also upload a new background image – only one for the entire app, though, not per page. Appy Pie lets you pick from five different navigation layouts, including the classic five icons along the bottom of the screen, a list, two different matrices, and a menu that slides out when you tap a button in the upper-left corner.

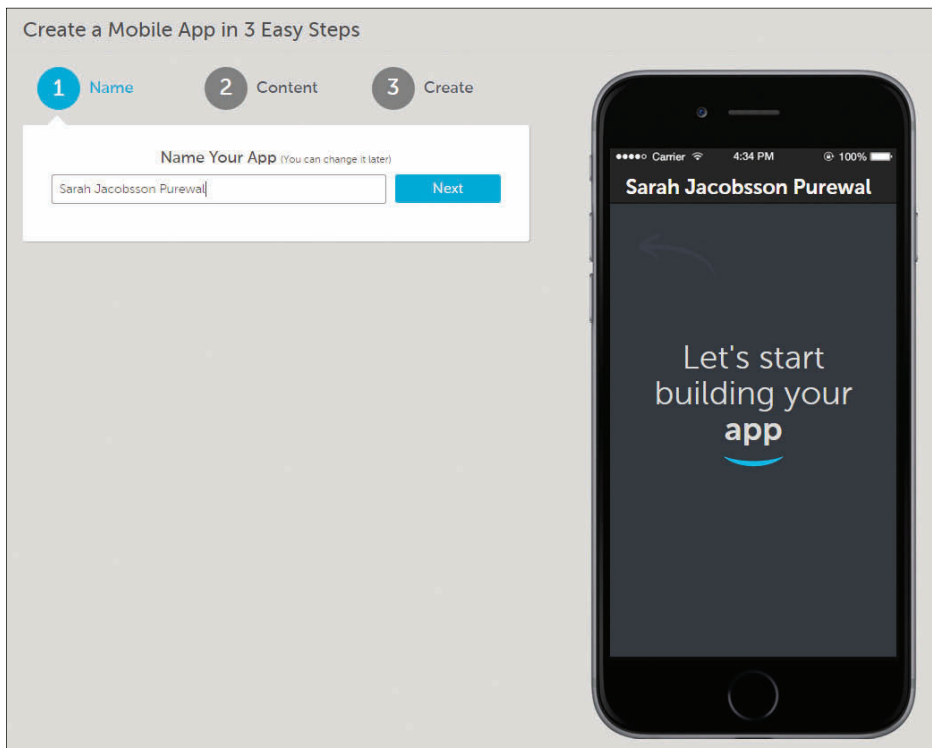
If you spend a few hours with Appy Pie's builder, you can make a polished, professional-looking app with ease. While it won't necessarily be in the running to win any design awards, it should suit most small businesses, restaurants and events looking to get their info out there and integrate social media and mobile commerce. The nicest thing about Appy Pie is that it's clearly designed with beginners in mind, and each page layout comes with its own video tutorial just in case you get lost.

## Como

If you've already got a robust Facebook page or website, Como (como.com) makes app-making even easier than Appy Pie does. Como is very similar,

but with one major difference – in the second step of Como's app-building process, you're asked to input your Facebook page or website URL, and then Como pulls your existing content and info to create a template for your app. This is handy because it helps give you an idea of what pages you might want to add to your app (Appy Pie recommends pages based on your app category, but Como chooses a category for you).

Of course, if you don't have a Facebook page or a website, you can still use Como's app builder; you'll just have to upload your own content.



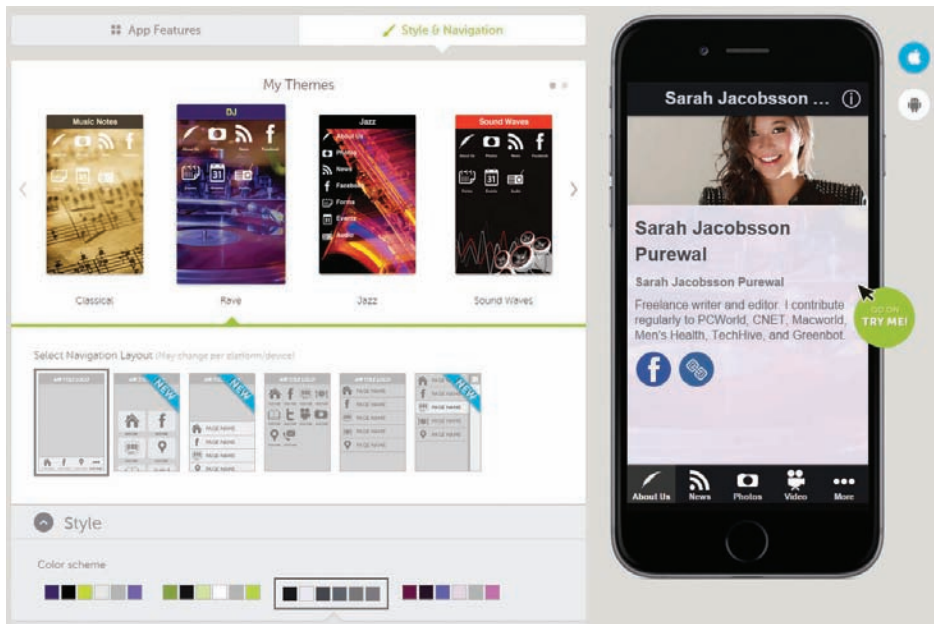
Como's app-building process also involves three steps. First, you name your app (apostrophes are not banned); secondly, you input your Facebook page name or website URL (or skip this step, if you don't have a Facebook page or website); and finally, you edit your prebuilt page and/or build your page in Como's app builder. It looks a lot like Appy Pie's, except it's a bit cleaner and more polished-looking. Like Appy Pie's builder, there are two sections: App Features, which is where you'll add pages and content; and Style and Navigation, which is where you'll edit the look of your app. There's also a large live preview of what your final app will look like to the right of the interface.

If you used Step Two, your app will already have some pages. To add a new page, click the Add Feature button and pick a page layout from the menu. Como offers plenty of page-layout options, including information pages (about your company, email/call/contact us, and map), social media pages (Facebook, Twitter, Instagram, RSS feed), and monetisation pages (food delivery, mobile commerce, loyalty cards, and coupons). For mobile commerce, you can add a Shopify store, integrate Yelp or OpenTable reviews, and create catalogues of items. Each page has its own specific customisation options, but most pages let you edit the page name, icon, and background image.

In Style and Navigation, Como offers themes (background image, colour scheme, navigation style) based on your app's category. For example, if you classify your app as a musician's app, you'll see themes like DJ, Jazz and Sound Waves. You don't

have to use a theme, of course, but they offer a nice way to see how your page looks in different layouts and colour schemes before you make additional tweaks. Here, you can change your app header, icon, splash screen, background image, and colours. You can also pick one of six different navigation layouts, including the classic five icons at the bottom of the screen, two different matrices, two different lists, and a slide-out menu.

Unlike the other services in this roundup, Como doesn't offer tiered pricing plans. Instead, there are only two options: The free plan, which limits you to five app downloads and 50 mobile visitors per month (basically a trial plan), or the paid plan, which starts at \$29 (£18) per month and gets you



full functionality, including unlimited users and downloads, unlimited push notifications, and advanced analytics.

Como's app builder is more intuitive than Appy Pie's, and everything is slightly more streamlined for businesses who need a solid, professional-looking app without having to spend hours uploading and adjusting content. It's also more expensive, though, since that \$29 per month price is only what you get if you sign up for the two-year plan (it's \$33 [£21] per month billed annually, while Appy Pie is \$19 [£12] per month billed annually).

## **GoodBarber**

Both Appy Pie and Como are good choices if you're looking to build a straightforward, no-nonsense app for your business or restaurant. But what if you're looking for something a little more whimsical and, well, attractive?

GoodBarber ([goodbarber.com](http://goodbarber.com)) is all about good-looking apps – even if its splash page is a minimalist rainbow blend of watercolours and text. While Appy Pie offers up a few generic stock photos, and Como gives you four or five basic themes, GoodBarber has an entire theme library, complete with custom fonts and high-resolution stock photos from Unsplash (a free stock photo library). If you want to make a pretty app, and you don't have the time to find or create content yourself, GoodBarber can help you with aesthetics.

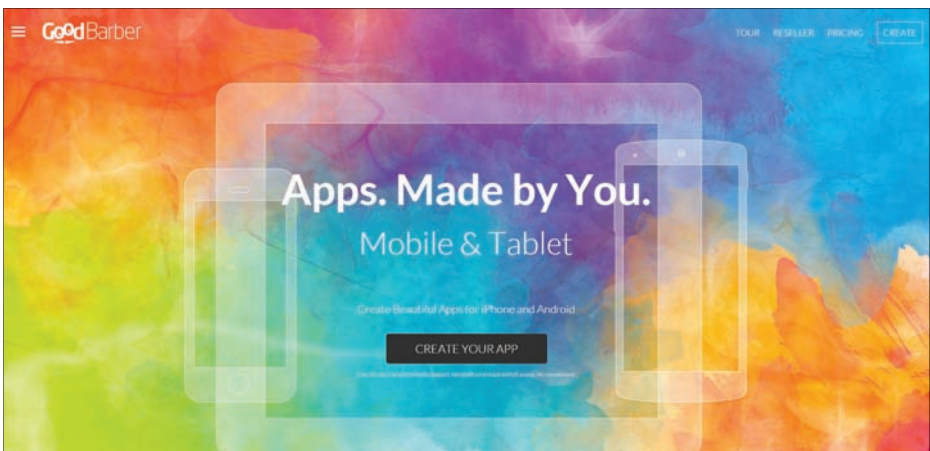
First, GoodBarber asks you to name and categorise your app. You can't use any special characters – not even spaces – in the name. Next,



you'll be asked to create an account (just an email address and a password), before GoodBarber takes you to its app builder.

This is a bit more design-led than Appy Pie's or Como's, and doesn't try to lock you out of things such as audience stats or general settings before you've created your app. The builder features a live preview of what your final app will look like, along with seven steps for designing your app, which are located in a menu on the right side of the screen.

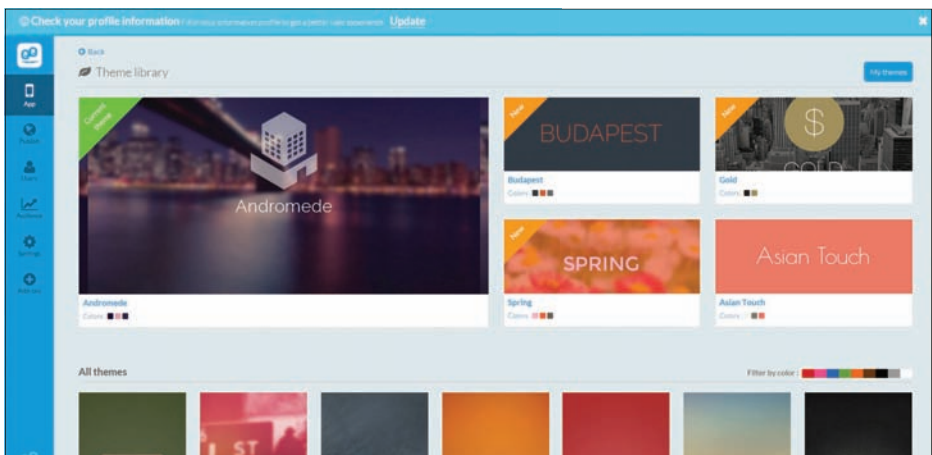
Step One is theme. GoodBarber has a collection of about 50, all of which have their own font, background, icons, and colours. The themes are polished and unique, and you can preview your app in a theme before you decide to change it. Step Two is navigation layout – GoodBarber lets you pick from eight different layouts, including a colourful typeface menu, a centre-text menu, and two different types of slide-out menus. In each menu, you can change the colours of both the text and the icons, as well



as the texture of the icons. If you'd prefer to create your navigation layout from scratch, there's also an option to just enter code. Step three lets you edit the header (swap it out for a picture or add effects – iOS only) and body of your app (background, separators and margins).

After you've picked out a theme and fixing up the navigation, header, and overall aesthetic of your app, you can start adding content. GoodBarber offers a few different page layouts, including information (about the company, contact us, calendar and map), social media (Facebook, Twitter, Instagram), and e-commerce integrated with Amazon, Shopify, and Etsy. You can also add an Article page, which lets you display blog posts from WordPress, Blogger, TypePad, or an RSS feed, or even upload content through GoodBarber's CMS.

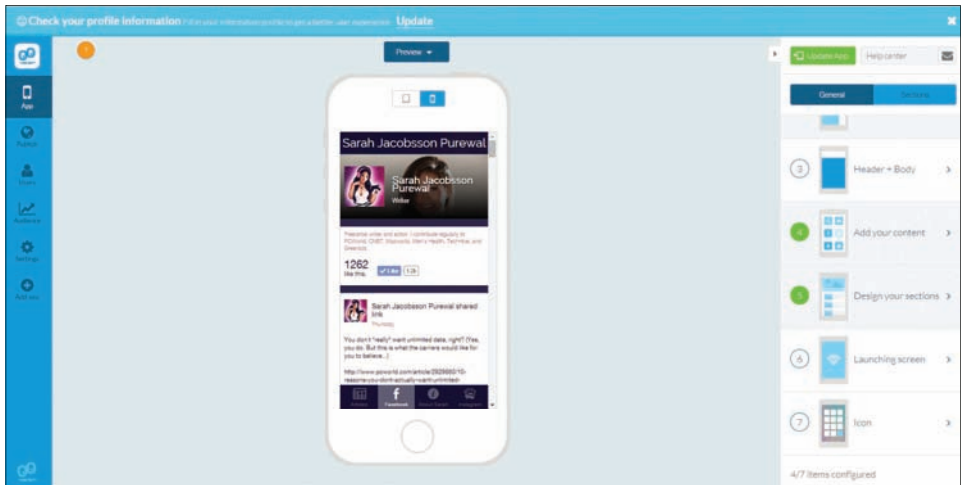
We're big fans of its last real step, which lets you design your sections. Each page has a few different layouts you can choose from, so you're not stuck



with a generic Twitter feed or a list of articles. In Appy Pie and Como, the page layouts are fairly rigid, which means that some pages will inevitably end up looking very cookie-cutter. The last two steps after section design in GoodBarber just involve editing your splash screen and app icon.

You can try out GoodBarber's service for free for 30 days before you're required to upgrade to a paid plan. GoodBarber offers three tiers: Standard, Full and Advanced. The Standard plan, which starts at \$16 (£10) per month, is extremely limited – this plan doesn't let you add any original content, which means you can't have an about page, contact forms, or basically anything that you've created. What you can have is an RSS feed, a website, and social media accounts – so your app will in essence be a hub for users to find your content elsewhere on the web.

The Full plan, which starts at \$32 (£20) per month, gets you everything you need, including original



content. You have access to all of GoodBarber's functionality: Android and iOS support, unlimited push notifications, advanced analytics, and the ability to add internal or third-party ad networks to your app. The Advanced plan, which starts at \$48 (£31) per month, gets you just a few extras on top of the Full plan – tablet support (adaptive design) and API access. You can buy API access on the Standard and Full plans for an extra \$4 (£2.50) per month.

If you're willing to pay a little more per month, GoodBarber's apps can really step up your game. You will spend more time creating your app with this service, but you'll also have more tools – including a library of fonts and stock photos, as well as a built-in CMS – at your fingertips.

### **Go forth, and be mobile**

If you're still on the fence about which service to try, you can try all of them, and more. Most DIY app-building services offer a free trial or a limited free account. While you won't be able to submit your app to the App Store for free (though you should still be able to test it out on your own device), you will be able to get an idea of what your app will look like before you commit to a monthly hosting fee.

Oh, and one other note – these monthly fees do not include the cost of an Apple Developer account, which will set you back \$99 (£63) per year. While Appy Pie, Como, and GoodBarber will submit your apps to both the App Store and Google Play for 'free', they'll only do so if you provide them with your developer information (a Google Play developer account is a one-time \$25 [£16] fee ).



# Curb your data usage

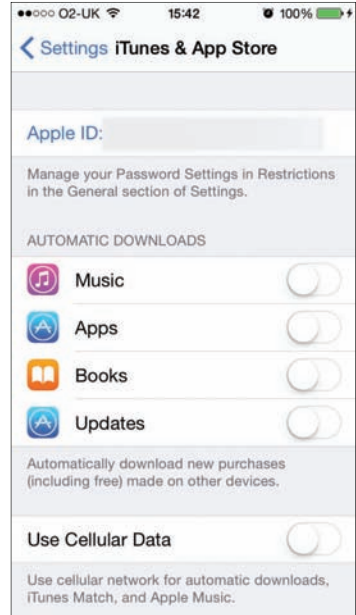
How to put a lid on your iPhones's data use

While four (or six, eight, or more) gigabytes of cellular data probably sounded like a lot when you first signed up for your iPhone data plan, thanks to the latest data-hungry iOS apps and features, a gigabyte of mobile data isn't what it used to be. Indeed, you'd be amazed how quickly your iPhone (or your LTE-enabled iPad, for that matter) can use up mobile data – particularly if you're watching HD-quality Netflix videos, streaming iTunes Match songs, using your iPhone's personal hotspot with your laptop, or letting iOS update your apps automatically.

## Stop automatic downloads

With the right settings enabled, iOS will automatically download any new music, apps, or iBooks purchased by any of your iCloud-connected devices. Even better, your iPhone can automatically download and install updates for all your iOS apps. While convenient, automatic downloads can put a serious dent in your monthly data allowance, especially if you have a lot of iOS apps installed.

Luckily, you can flip a switch to block cellular access to automatic downloads, and doing so also turns off the spigot for two other data-hogging features: iTunes Radio and iTunes Match. Just tap *Settings* → *iTunes & App Store*, then turn off the Use Cellular Data switch. The only downside is that you can't pick and choose which automatic download features can use cellular data; instead, it's an all-or-nothing deal. In other words, if you don't let your iPhone download app updates over cellular, you won't be able to stream iTunes Match tracks on your mobile network, either.



## FaceTime calls

FaceTime makes for a great way to keep in touch with far-flung family and friends, as well as a surprisingly easy way to drain your monthly cellular data allowance. You've got a couple of options when it comes to limiting FaceTime's cellular use:

either exercise a little self-discipline when it comes to non-Wi-Fi video calls, or shut off FaceTime's cellular access completely.

If you picked option two, go to *Settings* → *Cellular*. Scroll down to the FaceTime setting (under the Use Cellular Data For heading) and flick the Off switch.

**Bonus tip:** You can turn off cellular access for any of your apps, not just FaceTime, in the Cellular settings screen.

## Netflix and YouTube

Whether you're stuck on a train or cooling your heels in a hotel room, watching a movie on Netflix over your iPhone's speedy LTE connection can be a tempting diversion. But think twice before binge-watching an entire season of over LTE. Netflix (or another video-streaming service, for that matter) can easily chomp a gig or more of data an hour for HD-quality video. Indeed, a couple of HD Netflix movies could blow through an entire month's allowance.

So take it easy when it comes to streaming Netflix, YouTube, or other videos. Remember, even just a few minutes each day can add up.

## Facebook videos

A recent update of Facebook's iOS app added an eye-popping new feature: autoplay videos, which start playing automatically as you scroll through your news feed.

It's a nifty feature, and the default Smart Auto-Play setting supposedly adjusts your autoplay video quality depending on your battery life and

whether you're on a cellular network. Still, all those videos can add up when it comes to cellular data. If you'd rather turn off this feature, try this. Open the Facebook app on your iPhone, tap the More button in the bottom-right corner of the screen, scroll down and tap Account Settings, then tap Videos, Auto-play. Flick off the Smart Auto-Play switch, then pick a new setting – ideally, either Use Wi-Fi Only or Never Play Videos Automatically.

### **Mobile-friendly browser**

A little casual web browsing over your iPhone's LTE connection probably won't drain your monthly data allowance on its own. Again, though, it all adds up. That's why frugal iPhone users would be well served with a bandwidth-conscious mobile browser – specifically, one that 'crunches' web pages into smaller chunks that consume less cellular data.

Your options include: Opera Mini ([tinyurl.com/pj6j7pc](http://tinyurl.com/pj6j7pc)), a free browser that shaves hefty chunks of data from web pages, and Google Chrome ([tinyurl.com/q6bsm9c](http://tinyurl.com/q6bsm9c)), which crunches web pages with its Google-hosted Data Saver feature (tap the menu button in the top corner of the screen, then tap *Settings* → *Bandwidth* → *Data Saver*).

### **Personal Hotspot**

Turning your iPhone into a portable hotspot makes for a great way to keep your laptop connected while you're on the go. Unfortunately, it's also a recipe for a jumbo-size wireless bill.

Unless you tell your computer otherwise, it'll assume that it's using a no-limit internet connection,



leaving it free to download massive system and app updates, grab file attachments from your email provider, sync your Dropbox and Google Drive folders, and perform any number of data-hogging activities.

The good news is that newer iMacs and MacBooks will automatically cool it when it comes to giant system updates over your iPhone's mobile hotspot. Similarly, if you're using Windows 8 or later, you can designate your Personal Hotspot as a 'metered connection'; open the Settings panel on the right side of the screen, click the Network icon, right-click the name of your mobile hotspot, and select Set As Metered Connection.

That said, even the 'metered connection' flag won't stop your laptop from syncing, say, those massive video files in your Dropbox, or pinging Outlook for new messages and attachments every five minutes.

Make sure to pause any file-syncing apps on your desktop before you connect using your iOS Personal Hotspot, and consider using a web client for checking email. Users of iTunes on the desktop should look out for automatic podcast, music, and video downloads. And yes – previous warnings about Netflix, YouTube, and other video-streaming services still apply.

You can use the Activity Monitor app on your Mac to keep an eye on your data usage – just make sure the Network tab is selected. On a Windows 8 or higher PC, you can check your bandwidth by right-clicking your data connection and selecting Show Estimated Data Usage.

